STATE WATER CONTROL BOARD
9VAC25-32-10 - VIRGINIA POLLUTION ABATEMENT (VPA) PERMIT REGULATION

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Part I
General

9VAC25-32-10. Definitions.

The following words and terms, when used in this chapter and in VPA permits issued under this chapter shall have the meanings defined in the State Water Control Law, unless the context clearly indicates otherwise and as follows:

"Best Management Practices (BMP)" means a schedule of activities, prohibition of practices, maintenance procedures and other management practices to prevent or reduce the pollution of state waters. BMP's include treatment requirements, operating and maintenance procedures, schedule of activities, prohibition of activities, and other management practices to control plant site runoff, spillage, leaks, sludge or waste disposal, or drainage from raw material storage.

"Board" means the Virginia State Water Control Board or State Water Control Board.

"Bypass" means intentional diversion of waste streams from any portion of a treatment works.

"Concentrated confined animal feeding operation" means an animal feeding operation at which:

1. At least the following number and types of animals are confined:

a. 300 slaughter and feeder cattle;

b. 200 mature dairy cattle (whether milked or dry cows);

c. 750 swine each weighing over 25 kilograms (approximately 55 pounds);

d. 150 horses;

e. 3,000 sheep or lambs;

f. 16,500 turkeys;

g. 30,000 laying hens or broilers; or

h. 300 animal units; and

2. Treatment works are required to store wastewater, or otherwise prevent a point source discharge of wastewater pollutants to state waters from the animal feeding operation except in the case of a storm event greater than the 25-year, 24-hour storm.

"Confined animal feeding operation" means a lot or facility together with any associated treatment works where the following conditions are met:

1. Animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period; and

2. Crops, vegetation forage growth, or post-harvest residues are not sustained over any portion of the operation of the lot or facility.

"Department" means the Department of Environmental Quality.

"Director" means the Director of the Department of Environmental Quality, or an authorized representative.

"Discharge" means, when used without qualification, a discharge of a pollutant or any addition of any pollutant or combination of pollutants to state waters or waters of the contiguous zone or ocean other than discharge from a vessel or other floating craft when being used as a means of transportation.

"Draft VPA permit" means a document indicating the board's tentative decision to issue, deny, modify, revoke and reissue, terminate or reissue a VPA permit. A notice of intent to

terminate a VPA permit and a notice of intent to deny a VPA permit are types of draft VPA permits. A denial of a request for modification, revocation and reissuance or termination is not a draft VPA permit.

"General VPA permit" means a VPA permit issued by the board authorizing a category of pollutant management activities.

"Land application" means the introduction of wastewaters or sludge into or onto the ground for treatment or reuse.

"Limitation" means any restriction imposed on quantities, rates or concentration of pollutants which are managed by pollutant management activities.

"Monitoring report" means forms supplied by the department for use in reporting of self-monitoring results of the permittee.

"Municipality" means a city, county, town, district association, authority or other public body created under the law and having jurisdiction over disposal of sewage, industrial, or other wastes.

"Nonpoint source" means a source of pollution, such as a farm or forest land runoff, urban storm water runoff or mine runoff that is not collected or discharged as a point source.

"Operator" means any individual employed or appointed by any owner, and who is designated by such owner to be the person in responsible charge, such as a supervisor, a shift operator, or a substitute in charge, and whose duties include testing or evaluation to control waterworks or wastewater works operations. Not included in this definition are superintendents or directors of public works, city engineers, or other municipal or industrial officials whose duties do not include the actual operation or direct supervision of waterworks or wastewater works.

"Overflow" means the unintentional discharge of wastes from any portion of a treatment works.

"Permittee" means an owner or operator who has a currently effective VPA permit issued by the board.

"Point source" means any discernible, defined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agricultural land.

"Pollutant" means any substance, radioactive material, or heat which causes or contributes to, or may cause or contribute to, pollution. It does not mean (i) sewage from vessels; or (ii) water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil or gas production and disposed of in a well, if the well is used either to facilitate production or for disposal purposes if approved by Department of Mines Minerals and Energy unless the board determines that such injection or disposal will result in the degradation of ground or surface water resources.

"Pollutant management activity" means a treatment works with a potential or actual discharge to state waters, but which does not have a point source discharge to surface waters.

"Privately owned treatment works (PVOTW)" means any sewage treatment works not publicly owned.

"Publicly owned treatment works (POTW)" means any sewage treatment works that is owned by a state or municipality. Sewers, pipes, or other conveyances are included in this definition only if they convey wastewater to a POTW providing treatment.

"Public hearing" means a fact-finding proceeding held to afford interested persons an opportunity to submit factual data, views, and arguments to the board.

"Schedule of compliance" means a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with the federal Clean Water Act (33 USC 1251 et seq.), the law, and board regulations, standards and policies.

"Sewage sludge use or disposal" means the collection, storage, treatment, transportation, processing, monitoring, use, or disposal of sewage sludge.

"Sludge" means solids, residues, and precipitates separated from or created by the unit processes of a treatment works.

"State Water Control Law (law)" means Chapter 3.1 (§62.1-44.2 et seq.) of Title 62.1 of the Code of Virginia.

"Surface water" means:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

2. All interstate waters, including interstate "wetlands";

3. All other waters such as inter/intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

a. Which are or could be used by interstate or foreign travelers for recreational or other purposes;

b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

c. Which are used or could be used for industrial purposes by industries in interstate commerce;

4. All impoundments of waters otherwise defined as surface waters under this definition;

5. Tributaries of waters identified in subdivisions 1 through 4 of this definition;

6. The territorial sea; and

7. "Wetlands" adjacent to waters, other than waters that are themselves wetlands, identified in subdivisions 1 through 6 of this definition.

"Toxic pollutant" means any agent or material including, but not limited to, those listed under §307(a) of the Clean Water Act (33 USC §1317(a)) which after discharge will, on the basis of available information, cause toxicity. Toxicity means the inherent potential or capacity of a material to cause adverse effects in a living organism, including acute or chronic effects to aquatic life, detrimental effects on human health or other adverse environmental effects.

"Treatment facility" means only those mechanical power driven devices necessary for the transmission and treatment of pollutants (e.g., pump stations, unit treatment processes).

"Treatment works" means any devices and systems used for the storage, treatment, recycling or reclamation of sewage or liquid industrial waste, or other waste or necessary to recycle or reuse water, including intercepting sewers, outfall sewers, sewage collection systems, individual systems, pumping, power and other equipment and their appurtenances; extensions, improvements, remodeling, additions, or alterations; and any works, including land that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment; or any other method or system used for preventing, abating, reducing, storing, treating, separating, or disposing of municipal waste or industrial waste, including waste in combined sewer water and sanitary sewer systems.

"Twenty-five-year, 24-hour storm event" means the maximum 24-hour precipitation event with a probable recurrence interval of once in 25 years as established by the National Weather Service or appropriate regional or state rainfall probability information.

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit limitations because of factors beyond the permittee's reasonable control. An upset does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

"Virginia Pollution Abatement (VPA) permit" means a document issued by the board, pursuant to this chapter, authorizing pollutant management activities under prescribed conditions.

"Virginia Pollutant Discharge Elimination System (VPDES) permit" means a document issued by the board pursuant to 9VAC25-31-10 et seq., authorizing, under prescribed conditions, the potential or actual discharge of pollutants from a point source to surface waters.

"VPA application" means the standard form or forms approved by the board for applying for a VPA permit.

9VAC25-32-20. Purpose.

This regulation delineates the procedures and requirements to be followed in connection with VPA permits issued by the board pursuant to the State Water Control Law.

9VAC25-32-30. Requirements and prohibitions.

A. All pollutant management activities covered under a VPA permit shall maintain no point source discharge of pollutants to surface waters except in the case of a storm event greater than the 25-year, 24-hour storm.

B. 1. Except in compliance with a VPA permit, or another permit issued by the board, it shall be unlawful for any person to:

a. Discharge into, or adjacent to, state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances; or

b. Otherwise alter the physical, chemical or biological properties of such state waters and make them detrimental to the public health, or to animal or aquatic life, or to the use of such waters for domestic or industrial consumption, or for recreation, or for other uses.

2. Any person required to obtain a permit pursuant to this chapter who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance into or upon state waters in violation of subdivision B 1 of this section; or who discharges or causes or allows a discharge that may reasonably be expected to enter state waters in violation of subdivision B 1 of this section shall notify the department of the discharge immediately upon discovery of the discharge and, in any event, no later than 24 hours after the discovery. A written report of the unauthorized discharge shall be submitted by the owner, to the department, within five days of discovery of the discharge.

a. The written report shall contain:

(1) A description of the nature of the discharge;

(2) The cause of the discharge;

(3) The date on which the discharge occurred;

(4) The length of time that the discharge continued;

(5) The volume of the discharge;

(6) If the discharge is continuing, how long it is expected to continue;

(7) If the discharge is continuing, what the expected total volume of the discharge will be; and

(8) Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by the permit.

b. Discharges reportable to the department under the immediate reporting requirements of other regulations are exempted from this requirement.

C. VPA permits may be utilized to authorize pollutant management activities including, but not limited to, animal feeding operations, storage or land application of sewage, sludge, industrial waste or other waste; or the complete reuse or recycle of wastewater. Point source discharges of pollutants to surface waters may be authorized by a VPDES permit (See 9VAC25-31-10 et seq., VPDES Permit Regulation).

D. No VPA permit shall be issued in the following circumstances:

1. Where the terms or conditions of the VPA permit do not comply with the applicable regulations or requirements of the law;

2. For the discharge of any radiological, chemical or biological warfare agent or high level radioactive material into state waters; or

3. For any pollutant management activity that is in conflict with any area-wide or basin-wide water quality control and waste management plan or policy established by the board pursuant to the law.

9VAC25-32-40. Exclusions.

The following do not require a VPA permit:

1. The introduction of sewage, industrial waste or other pollutants into publicly owned treatment works by indirect dischargers. Plans or agreements to switch to this method of disposal in the future do not relieve dischargers of the obligation to have and comply with VPA permits until all discharges of pollutants to state waters are eliminated;

2. Any introduction of pollutants from nonpoint source agricultural or silvicultural activities, including runoff from orchards, cultivated crops, pastures, range lands, and forest lands, except that this exclusion shall not apply to concentrated confined animal feeding operations;

3. Return flows from irrigated agricultural land;

4. Land disposal activity, including sewage sludge use or disposal or onsite waste treatment, when this activity is otherwise authorized by the Department of Environmental Quality; and

5. Discharges authorized by EPA under the Safe Drinking Water Act Underground Injection Control Program (UIC), 40 CFR Part 144, and approved, in writing, by the board.

9VAC25-32-50. Effect of a VPA permit.

A. Compliance with a VPA permit constitutes compliance with the VPA permit requirements of the law.

B. The issuance of a VPA permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights or any infringement of federal, state or local law or regulation.

Part II
Permit Application and Issuance

9VAC25-32-60. Application for a VPA permit.

A. Duty to apply. Any owner of a pollutant management activity who does not have an effective VPA permit, except persons covered by general VPA permits or excluded under 9VAC25-32-40, shall submit a complete application to the department in accordance with this section.

1. a. A complete VPA permit application shall be submitted by the owner of the pollutant management activity before a VPA permit can be issued. This item does not apply where general VPA permits are applicable.

b. The board may require the submission of additional information after an application has been filed, and may suspend processing of any application until such time as the owner has supplied missing or deficient information and the board considers the application complete. Further, when the owner becomes aware that he omitted one or more relevant facts from a VPA permit application, or submitted incorrect information in a VPA permit application or in any report to the department, he shall promptly submit such facts or the correct information.

c. In accordance with §62.1-44.19:3 A of the Code of Virginia, no application for a permit or variance to authorize the storage of sewage sludge shall be complete unless it contains certification from the governing body of the locality in which the sewage sludge is to be stored that the storage site is consistent with all applicable ordinances. The governing body shall confirm or deny consistency within 30 days of receiving a request for certification. If the governing body does not so respond, the site shall be deemed consistent.

d. No application for a permit to land apply biosolids in accordance with Part IX (9VAC25-32-310 et seq.) of this chapter shall be complete unless it includes the written consent of the landowner to apply biosolids on his property.

2. a. Any owner proposing a new pollutant management activity shall submit an application for a VPA permit 180 days prior to the date planned for commencing erection, construction or expansion or employment of new processes at any site. There shall be no operation of said facilities prior to the issuance of a VPA permit.

b. Any owner with an existing pollutant management activity that has not been permitted shall submit an application within 60 days upon being requested to by the board. The board, after determining there is pollution occurring, may allow the construction of treatment works prior to permit issuance. There shall be no operation of said treatment works prior to permit issuance.

c. Owners currently managing pollutants who have effective VPA permits shall submit a new application 180 days prior to proposed facility expansions, production increases, or process modification which will:

(1) Result in significantly new or substantially increased amounts of pollutants being managed or a significant change in the nature of the pollutant management activity that was not anticipated and accounted for on the application for the effective VPA permit; or

(2) Violate or lead to violation of the terms and conditions of the effective VPA permit.

3. Pursuant to §62.1-44.15:3 of the Code of Virginia, no application for a VPA permit from a privately owned treatment works serving, or designed to serve, 50 or more residences shall be considered complete unless the applicant has provided the department with notification from the State Corporation Commission that the applicant is

incorporated in the Commonwealth and is in compliance with all regulations and relevant orders of the State Corporation Commission.

B. Duty to reapply. Any permittee with an effective VPA permit shall submit a new application at least 180 days before the expiration date of the effective VPA permit unless permission for a later date has been granted by the board. Permission shall not be granted to submit an application later than the expiration date of the existing VPA permit.

C. Information requirements. All applicants for VPA permits shall provide information in accordance with forms provided by the department.

9VAC25-32-70. Signatory requirements.

Any application, report, including monitoring reports, or certifications shall be signed as follows:

1. Application.

a. For a corporation: by a responsible corporate official. For purposes of this section, a responsible corporate official means (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25,000,000 (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

b. For a municipality, state, federal or other public agency by either a principal executive officer or ranking elected official. (A principal executive officer of a federal, municipal, or state agency includes the chief executive officer of the agency or head executive officer having responsibility for the overall operation of a principal geographic unit of the agency.)

c. For a partnership or sole proprietorship, by a general partner or proprietor, respectively.

2. Reports. All reports required by VPA permits and other information requested by the board shall be signed by:

a. One of the persons described in subdivision 1 of this section; or

b. A duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in subdivision 1 of this section; and

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

(3) If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to the department prior to or together with any separate information, or applications to be signed by an authorized representative.

3. Certification. Any person signing a document under subdivision 1 or 2 of this section shall make the following certification: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with

a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."

9VAC25-32-80. Conditions applicable to all VPA permits.

A. Duty to comply. The permittee shall comply with all conditions of the VPA permit. Any permit noncompliance is a violation of the law, and is grounds for enforcement action, permit termination, revocation, modification, or denial of a permit renewal application.

B. Duty to halt or reduce activity. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the VPA permit.

C. Duty to mitigate. The permittee shall take all reasonable steps to minimize, correct or prevent any pollutant management activity in violation of the VPA permit which has a reasonable likelihood of adversely affecting human health or the environment.

D. Proper operation and maintenance. The permittee shall be responsible for the proper operation and maintenance of all treatment works, systems and controls which are installed or used to achieve compliance with permit conditions. Proper operation and maintenance includes effective plant performance, adequate funding, adequate licensed operator staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures.

E. Permit action.

1. A VPA permit may be modified, revoked and reissued, or terminated as set forth in this chapter.

2. If a permittee files a request for a permit modification, revocation, or termination, or files a notification of planned changes, or anticipated noncompliance, the permit terms and conditions shall remain effective until the request is acted upon by the board. This provision shall not be used to extend the expiration date of the effective VPA permit.

3. VPA permits may be modified, revoked and reissued or terminated upon the request of the permittee or interested persons, or upon the board's initiative, to reflect the requirements of any changes in the statutes or regulations.

4. VPA permits continued under 9VAC25-32-130 remain effective and enforceable.

F. Inspection and entry. Upon presentation of credentials, any duly authorized agent of the board may, at reasonable times and under reasonable circumstances:

1. Enter upon any permittee's property, public or private, and have access to records required by the VPA permit;

2. Have access to, inspect and copy any records that must be kept as part of VPA permit conditions;

3. Inspect any facility's equipment (including monitoring and control equipment) practices or operations regulated or required under the VPA permit; and

4. Sample or monitor any substances or parameters at any locations for the purpose of assuring VPA permit compliance or as otherwise authorized by law.

G. Duty to provide information.

1. The permittee shall furnish to the department, within a reasonable time, any information which the board may request to determine whether cause exists for modifying, revoking and reissuing, terminating the VPA permit, or to determine

compliance with the VPA permit. The permittee shall also furnish to the department, upon request, copies of records required to be kept by the permittee.

2. Plans, specifications, maps, conceptual reports and other relevant information shall be submitted as requested by the board prior to commencing construction.

H. Monitoring and records.

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

2. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the VPA permit, and records of all data used to complete the application for the VPA permit, for a period of at least three years or in the case of activities regulated under Part IX (9VAC25-32-310 et seq.) of this chapter, at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the board at any time.

Records related to biosolids data and information specified in agreements between generator, owner, agents, landowners and farmers shall be described and maintained for a minimum period of five years or the duration of the permit or subsequent revisions if longer than five years.

3. Records of monitoring information shall include:

a. The date, exact place and time of sampling or measurements;

b. The name of the individual or individuals who performed the sampling or measurements;

c. The date or dates analyses were performed;

d. The name of the individual or individuals who performed the analyses;

e. The analytical techniques or methods supporting the information such as observations, readings, calculations and bench data used; and

f. The results of such analyses.

4. Monitoring shall be conducted according to analytical methods promulgated pursuant to §304(h) of the Clean Water Act (33 USC §1251 et seq.) and listed in the Code of Federal Regulations at 40 CFR Part 136 (1995). Any other acceptable test procedure not listed in 40 CFR Part 136 (1995) shall be specified in the VPA permit.

I. Reporting requirements.

1. The permittee shall give prompt notice to the department of any planned changes to the design or operation of the pollutant management activity.

2. If any unusual or extraordinary discharge including a bypass or upset should occur from a treatment works and the discharge enters or could be expected to enter state waters, the owner shall promptly notify, in no case later than 24 hours, the department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse effects on aquatic life and the known number of fish killed. The permittee shall reduce the report to writing and shall submit it to the department within five days of discovery of the discharge in accordance with subdivision 6 of this subsection. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

a. Unusual spillage of materials resulting directly or indirectly from processing operations;

b. Breakdown of processing or accessory equipment;

c. Failure or taking out of service of some or all of the treatment works; and

d. Flooding or other acts of nature.

3. The permittee shall give at least 10 days advance notice to the department of any planned changes to the facility or activity which may result in noncompliance.

4. Monitoring results shall be reported at the intervals specified in the applicable VPA permit.

a. Monitoring results shall be reported in a format acceptable to the board.

b. If a permittee monitors the pollutant management activity, at a sampling location specified in the VPA permit, for any pollutant more frequently than required by the VPA permit using approved analytical methods, the permittee shall report the results of this monitoring on the monitoring report.

c. If the permittee monitors the pollutant management activity, at a sampling location specified in the VPA permit, for any pollutant that is not required to be monitored by the VPA permit, and uses approved analytical methods the permittee shall report the results with the monitoring report.

d. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the VPA permit.

5. Reports of compliance or noncompliance with or any progress report on interim and final requirements contained in any compliance schedule in the VPA permit shall be submitted no later than 14 days following each scheduled date.

6. 24-hour reporting.

a. The permittee shall report any noncompliance which may adversely affect state waters or may endanger public health. An oral report must be provided as soon as possible, but in no case later than 24 hours from the time the permittee becomes aware of the circumstances. A written report shall be submitted within five days and shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times, and, if the noncompliance has not been corrected, how long it is expected to continue, steps planned or taken to reduce, eliminate and prevent a recurrence of the noncompliance. The board may waive the written report requirements on a case-by-case basis if the oral report has been received within 24 hours and no adverse impact on state waters has been reported. All other noncompliance reports which may not adversely affect state waters shall be submitted with the monitoring report. Reports shall include overflows.

b. The following shall be included as information which must be reported within 24 hours under this subdivision:

(1) Any unanticipated bypass; and

(2) Any upset which causes a discharge to surface waters.

J. Bypass.

1. A bypass of the treatment works is prohibited except as provided herein.

2. If the permittee knows in advance of the need for a bypass, he shall notify the department promptly at least 10 days prior to the bypass. After considering its adverse effects, the board may approve an anticipated bypass if:

a. The bypass will be unavoidable to prevent loss of human life, personal injury, or severe property damage ("severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which

can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production); and

b. There are no feasible alternatives to bypass such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment downtime. However, if bypass occurs during normal periods of equipment downtime or preventive maintenance and in the exercise of reasonable engineering judgment the permittee could have installed adequate backup equipment to prevent such bypass, this exclusion shall not apply as a defense.

3. If an unplanned bypass occurs, the permittee shall notify the department as soon as possible, but in no case later than 24 hours, and shall take steps to halt the bypass as early as possible. This notification will be a condition for defense to an enforcement action that an unplanned bypass met the conditions in subdivision 2 of this subsection and in light of the information reasonably available to the owner at the time of the bypass.

K. Upset. A permittee may claim an upset as an affirmative defense to an action brought for noncompliance. In any enforcement proceedings a permittee shall have the burden of proof to establish the occurrence of any upset. In order to establish an affirmative defense of upset, the permittee shall present properly signed, contemporaneous operating logs or other relevant evidence that shows:

1. That an upset occurred and that the cause can be identified;

2. That the permitted facility was at the time being operated efficiently and in compliance with proper operation and maintenance procedures;

3. That the 24-hour reporting requirements to the department were met; and

4. That the permittee took all reasonable steps to minimize or correct any adverse impact on state waters resulting from noncompliance with the VPA permit.

L. Signature requirements. All applications, reports, or information submitted to the department shall be signed and certified as required in 9VAC25-32-70.

M. Transfers. A VPA permit is not transferable to any person except after notice to the department according to 9VAC24-32-230. The board may require modification or revocation and reissuance of the VPA permit to change the name of the permittee and incorporate such other requirements as may be necessary.

9VAC25-32-90. Conditions applicable to publicly or privately owned sewage treatment works.

A. Publicly or privately owned sewage treatment works shall provide adequate notice to the department of any substantial change in quantity or quality of pollutants being introduced into the privately or publicly owned sewage treatment works and any anticipated impact the change may have on such treatment works.

B. When the monthly average flow influent to a POTW or PVOTW reaches 95% of the design capacity authorized by the VPA permit for each month of any consecutive three-month period, the owner shall within 30 days notify the department in writing and within 90 days submit a plan of action for ensuring continued compliance with the terms of the VPA permit.

1. The plan shall include the necessary steps and a prompt schedule of implementation for controlling any current problem, or any problem which could reasonably be anticipated, resulting from high influent flows.

2. Upon receipt of the owner's plan of action, the board shall notify the owner whether the plan is approved or disapproved. If the plan is disapproved, such notification shall state the reasons and specify the actions necessary to obtain approval of the plan.

3. Failure to submit an adequate plan in a timely manner shall be deemed a violation of the VPA permit.

C. Nothing herein shall in any way impair the authority of the board to take enforcement action under §62.1-44.15, §62.1-44.23, or §62.1-44.32 of the Code of Virginia.

9VAC25-32-100. Establishing limitations and other VPA permit conditions.

In addition to the conditions established in 9VAC25-32-80 and 9VAC25-32-90, each VPA permit shall include conditions meeting the following requirements where applicable.

1. Determination of limitations. VPA permit limitations and conditions shall be established based on the nature of the pollutant management activity in order to ensure compliance with technology-based limitations, water quality standards, the law and all regulations promulgated thereunder. These limitations and conditions may include, but are not limited to, duration of VPA permits, monitoring requirements, limitations to control toxic pollutants, best management practices and schedules of compliance.

2. Duration of VPA permits. VPA permits issued under this regulation shall have an effective date and an expiration date which will determine the life of the VPA permit. VPA permits shall be effective for a fixed term not to exceed 10 years as specified in the VPA permit. The term of the VPA permits shall not be extended by modification beyond the maximum duration. The VPA permit shall expire at the end of the term unless an application for a new VPA permit has been timely filed as required by this chapter and the board is unable, through no fault of the permittee, to issue a new VPA permit before the expiration date of the previous VPA permit.

3. Monitoring requirements.

a. All VPA permits may specify:

(1) Requirements concerning the proper use, maintenance and installation, when appropriate, of monitoring equipment or methods;

(2) Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity and including, when appropriate, continuous monitoring; and

(3) Applicable reporting requirements based upon the impact of the regulated activity on water quality.

b. VPA permits may include requirements to report monitoring results with a frequency dependent on the nature and effect of the pollutant management activity.

c. In addition, the following monitoring requirements may be included in the VPA permits:

(1) Mass or other measurements specified in the VPA permit for each pollutant of concern;

(2) The volume of waste, wastewater or sludge managed by the activity; and

(3) Other measurements as appropriate.

4. Best Management Practices (BMPs). The VPA permit shall require the use of BMPs to control or abate pollutants where numeric limits are infeasible, and the VPA permit may include BMPs in addition to numeric limits where BMPs are necessary to achieve limitations and standards or to carry out the purpose and intent of the law.

5. Sludge disposal. The VPA permit shall include, where appropriate, specific requirements for disposal of all sludge.

6. Sewage sludge land application. Where, because of site-specific conditions, including soil type, identified during the permit application review process, the department

determines that special requirements are necessary to protect the environment or the health, safety or welfare of persons residing in the vicinity of a proposed land application site, the department may incorporate in the permit at the time it is issued reasonable special conditions regarding buffering, transportation routes, slope, material source, methods of handling and application, and time of day restrictions exceeding those required by this regulation. The permit applicant shall have at least 14 days in which to review and respond to the proposed conditions.

7. Schedules of compliance. The VPA permit may specify a schedule, when appropriate, leading to compliance with the VPA permit as soon as possible. When schedules of compliance are applicable the following shall be incorporated:

a. Schedule or schedules of compliance shall require the permittee to take specific steps where necessary to achieve expeditious compliance with the VPA permit;

b. The schedule of compliance shall set forth interim time periods not more than one year apart for the submission of reports of progress toward completion of each requirement; and

c. Schedule or schedules of compliance may be modified by modification of the VPA permit for good cause beyond the control of the permittee (e.g., act of God, strike, flood, material shortage).

9VAC25-32-110. Draft VPA permit formulation.

A. Upon receipt of a complete application, the board shall make a decision to tentatively issue the VPA permit or deny the application. If a tentative decision is to issue the VPA permit then a draft VPA permit shall be prepared in advance of public notice. The following tentative determinations shall be incorporated into a draft VPA permit:

1. Conditions, limitations, standards and other requirements applicable to the VPA permit;

2. Compliance schedules where applicable; and

3. Monitoring requirements.

B. If the tentative decision is to deny the application, the board shall advise the owner of that decision and of the requirements necessary to obtain approval. The owner may withdraw the application prior to board action. If the application is not withdrawn or modified to contain conditions necessary for tentative approval to issue, the board shall provide public notice and opportunity for a public hearing prior to board action on a recommendation to deny the application.

C. This section does not apply to requests for coverage under a general VPA permit.

9VAC25-32-120. Fact sheet.

A. A fact sheet shall be prepared to accompany all draft VPA permits. These fact sheets shall be made available to the public upon request.

B. The fact sheet shall include:

1. A brief description of the pollutant management activity to be permitted;

2. An explanation of the statutory or regulatory provisions on which the VPA permit requirements are based;

3. Calculations or other necessary explanations of the derivation of the VPA permit conditions or limitations;

4. The location of each pollutant management activity;

5. The reasons for any requested modifications;

6. A description of the procedures and sequence of events for reaching the final decision; and

7. The name and telephone number of a person to contact for additional information.

9VAC25-32-130. Continuation of expiring VPA permits.

A. Expiring VPA permits are automatically continued pending issuance of a new VPA permit if:

1. The permittee has submitted a timely and complete application as required by this chapter, unless the board has given permission for a later submittal, which shall not extend beyond the expiration date of the original VPA permit; and

2. The board is unable, through no fault of the permittee, to issue a new VPA permit before the expiration date of the previous VPA permit.

B. Continued VPA permits remain effective and enforceable against the permittee.

Part III
Public Involvement

9VAC25-32-140. Public notice of VPA permit action and public comment period.

A. Every draft VPA permit shall be given public notice, paid for by the owner, by publication once a week for two successive weeks in a newspaper of general circulation in the area affected by the pollutant management activity.

B. Interested persons shall have a period of at least 30 days following the date of the initial newspaper public notice to submit written comments on the tentative decision and to request a public hearing.

C. The contents of the public notice of an application for a VPA permit shall include:

1. The name and address of the applicant. If the location of the pollutant management activity differs from the address of the applicant the notice shall also state the location of the pollutant management activity including storage and land application sites;

2. A brief description of the business or activity conducted at the facility;

3. A statement of the tentative determination to issue or deny a VPA permit;

4. A brief description of the final determination procedure;

5. The address and phone number of a specific person at the state office from whom further information may be obtained; and

6. A brief description of how to submit comments and request a hearing.

D. Public notice shall not be required for submission or approval of plans and specifications or conceptual engineering reports not required to be submitted as part of the application.

E. Upon receipt of an application for a permit or for a modification of a permit, the board shall :

1. Cause to be notified, in writing, the locality wherein the pollutant management activity does or is proposed to take place. This notification shall, at a minimum, include:

a. The name of the applicant;

b. The nature of the application and proposed pollutant management activity; and

c. Upon request, any other information known to, or in the possession of, the board or the department regarding the application except as restricted by 9VAC25-32-150.

2. Establish a date for a public meeting to discuss technical issues relating to proposals for land application of biosolids or land disposal of treated sewage, stabilized sewage sludge or stabilized septage. The department shall give notice of the date, time, and place of the public meeting and a description of the proposal by publication in a newspaper of general circulation in the city or county where the proposal is to take place. Public notice of the scheduled meeting shall occur no fewer than seven or more than 14 days prior to the meeting. The board shall not consider the application for the proposal to be complete until the public meeting has been held and comment has been received from the local governing body or until 30 days have lapsed from the date of the public meeting.

F. Before issuing any permit, if the board finds that there are localities particularly affected by the permit, the board shall:

1. Publish, or require the applicant to publish, a notice in a local paper of general circulation in the localities affected at least 30 days prior to the close of any public comment period. Such notice shall contain a statement of the estimated local impact of the proposed permit, which at a minimum shall include information on the specific pollutants involved and the total quantity of each which may be discharged; and

2. Mail the notice to the chief elected official and chief administrative officer and planning district commission for those localities.

Written comments shall be accepted by the board for at least 15 days after any public hearing on the permit, unless the board votes to shorten the period. For the purposes of this section, the term "locality particularly affected" means any locality which bears any identified disproportionate material water quality impact which would not be experienced by other localities.

G. When a site is to be added to an existing permit authorizing land application of biosolids, the department shall notify persons residing on property bordering such site, and shall receive written comments from those persons for a period not to exceed 30 days. Based upon the written comments, the department shall determine whether additional site-specific requirements should be included in the authorization for land application at the site.

9VAC25-32-150. Public access to information.

A. Any secret formulae, secret processes, or secret methods other than effluent data submitted to the department pursuant to this chapter may be claimed as confidential by the submitter pursuant to §62.1-44.21 of the Code of Virginia. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "secret formulae, secret processes or secret methods" on each page containing such information. If no claim is made at the time of submission, the department may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in the Virginia Freedom of Information Act (§2.1-340 et seq. of the Code of Virginia) and §62.1-44.21 of the Code of Virginia.

B. Claims of confidentiality for the following information will be denied:

1. The name and address of any permit applicant or permittee; and

2. Permit applications, permits, and effluent data.

C. Information required by VPDES application forms provided by the department may not be claimed confidential. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

9VAC25-32-160. Conditions requested by other government agencies.

If during the comment period any other state agency with jurisdiction over fish, wildlife, or public health advises the department in writing that the imposition of specified conditions upon the VPA permit is necessary to avoid substantial impairment of human health or of fish, shellfish, or wildlife resources, the board shall consider the inclusion of the specified conditions in the VPA permit. If any conditions requested are not included in the VPA permit, the agency making the request shall be notified of the reasons for not including the conditions.

9VAC25-32-170. Public comments and hearings.

A. A comment period of at least 30 days following the initial date of the newspaper public notice of the formulation of a draft VPA permit shall be provided. During this period any interested persons may submit written comments on the draft VPA permit and may request a public hearing. A request for a public hearing shall be in writing and shall state the nature of the issues to be raised pursuant to the board's Procedural Rule No. 1 (9VAC25-230-10 et seq.), or its successor. All comments shall be considered by the board in preparing the final VPA permit and shall be responded to in writing.

B. The board may hold a public hearing on any permit action. The board shall hold a public hearing where there is a significant degree of public interest relevant to a draft VPA permit. Public notice of that hearing shall be given as specified in 9VAC25-32-180. Nothing in this subsection shall relieve the board of the requirement to hold a hearing where a hearing is required by applicable law or regulation.

C. Any hearing convened pursuant to this section will be held in the geographical area of the proposed pollutant management activity, or in another appropriate area. Related groups of VPA permit applications may be considered at any such hearing.

D. If changes are made to the VPA permit based on public comments, the permittee and all persons who commented will be notified of the changes and the reasons for the changes. No further public notice is required.

E. Any owner aggrieved by any action of the board taken without a formal hearing, or by inaction of the board, may demand in writing a formal hearing pursuant to §62.1-44.25 of the Code of Virginia.

F. Proceedings at, and the decision from, the public hearing will be governed by the board's Procedural Rule No. 1 (9VAC25-230-10 et seq) or its successor.

9VAC25-32-180. Public notice of hearing.

A. Public notice of any hearing held pursuant to 9VAC25-32-170 shall be circulated as follows:

1. Notice shall be published once in a newspaper of general circulation in the county or city where the pollutant management activity is to occur; and

2. Notice of the hearing shall be sent to all persons and government agencies which received a copy of the notice of the VPA permit application.

B. Notice shall be effected pursuant to subsection A of this section at least 30 days in advance of the hearing.

C. The content of the public notice of any hearing held pursuant to 9VAC25-32-170 shall include at least the following:

1. Name and address of each owner whose application will be considered at the hearing and a brief description of the owner's pollutant management activities or operations;

2. A brief reference to the public notice issued for the VPA permit application, including identification number and date of issuance unless the public notice includes the hearing notice;

3. Information regarding the time and location for the hearing;

4. The purpose of the hearing;

5. A concise statement of the issues raised by the persons requesting the hearing;

6. The name of a contact person and the address at which interested persons may obtain further information, request a copy of the draft VPA permit prepared pursuant to 9VAC25-32-110, request a copy of the fact sheet prepared pursuant to 9VAC25-32-120 and inspect or arrange for receipt of copies of forms and related documents; and

7. A brief reference to the rules and procedures to be followed at the hearing.

Part IV
Operator Requirements

9VAC25-32-190. Operator requirements.

A. The permittee shall employ or contract at least one operator who holds a current wastewater license appropriate for the permitted facility, if required by the VPA permit. The license shall be issued in accordance with Title 54.1 of the Code of Virginia and the regulations of the Board for Waterworks and Wastewater Works Operators (18VAC160-20-10 et seq.). Notwithstanding the foregoing requirement, unless the pollutant management activity is determined by the board on a case-by-case basis to be a potential contributor of pollution, no licensed operator is required for wastewater treatment works:

1. That have a design hydraulic capacity equal to or less than 0.04 million gallons per day;

2. That discharge industrial waste or other waste from coal mining operations; or

3. That do not utilize biological or physical/chemical treatment.

B. In making this case-by-case determination, the following shall be considered:

1. The location of the pollutant management activity with respect to state waters;

2. The size of the pollutant management activity;

3. The quantity and nature of pollutants reaching state waters; and

4. The treatment methods used at the treatment works.

C. The permittee shall notify the department in writing whenever he is not complying, or has grounds for anticipating he will not comply, with the requirements of subsection A of this section. The notification shall include a statement of reasons and a prompt schedule for achieving compliance.

Part V
Permit Modification, Revocation and Reissuance, and Termination

9VAC25-32-200. Modification, revocation and reissuance, and termination.

A. VPA permits shall be modified, revoked and reissued, or terminated only as authorized by this section.

B. A VPA permit may be modified in whole or in part, revoked and reissued, or terminated.

C. VPA permit modifications shall not be used to extend the term of a VPA permit.

D. Modification, revocation and reissuance, or termination of VPA permit may be initiated by the board, interested persons, or permittee under applicable provisions of this chapter.

E. An updated VPA permit application may be required in order to modify or revoke and reissue a VPA permit.

9VAC25-32-210. Causes for termination.

A. The following are causes for terminating a VPA permit during its term, or for denying a VPA permit renewal application, after public notice and opportunity for a public hearing:

1. The permittee has violated any regulation or order of the board, any condition of a VPA permit, any provision of the law, or any order of a court, where such violation results in a release of harmful substances into the environment or poses a substantial threat of release of harmful substances into the environment or presents a hazard to human health or the violation is representative of a pattern of serious or repeated violations which, in the opinion of the board, demonstrates the permittee's disregard for or inability to comply with applicable laws, regulations or requirements;

2. The permittee's failure to disclose fully all relevant material facts, or the permittee's misrepresentation of any relevant material facts in applying for a VPA permit, or in any other report or document required under the law or this chapter;

3. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by VPA permit modification or termination; or

4. There exists a material change in the basis on which the VPA permit was issued that requires either a temporary or a permanent reduction or elimination of any pollutant management activity controlled by the VPA permit necessary to protect human health or the environment.

B. In addition to causes for terminating a VPA permit specified in subsection A of this section, causes for terminating a VPA permit issued for land application, marketing and distribution of biosolids shall include:

1. Failure to comply with the conditions of the permit.

2. Violation of Chapter 3.1 (§62.1-44.2 et seq.) of Title 62.1 of the Code of Virginia or of any provisions of this regulation.

3. Change in ownership.

4. Abandonment of the facilities.

C. A VPA permit may be terminated without public notice and opportunity for a hearing when the termination is mutually agreed to by the permittee and the board.

9VAC25-32-220. Causes for modification.

A VPA permit may be modified, but not revoked and reissued, except when the permittee agrees or requests, when any of the following developments occur:

1. When additions or alterations have been made to the affected facility which require the application of VPA permit conditions that differ from those of the existing VPA permit or are absent from it;

2. When new information becomes available about the operation or pollutant management activity covered by the VPA permit which was not available at VPA permit issuance and would have justified the application of different VPA permit conditions at the time of VPA permit issuance;

3. When a change is made in the promulgated standards or regulations on which the VPA permit was based;

4. When it becomes necessary to change final dates in compliance schedules due to circumstances over which the permittee has little or no control such as acts of God, materials shortages, etc.; or

5. For the addition of new land application sites, new biosolids sources or routine storage facilities to the permit.

9VAC25-32-230. Transfer of VPA permits.

A. Transfer by modification. Except as provided for under automatic transfer in subsection B of this section, a VPA permit shall be transferred only if the VPA permit has been modified to reflect the transfer or has been revoked and reissued to the new owner.

B. Automatic transfer. Any VPA permit shall be automatically transferred to a new owner if:

1. The current owner notifies the department 30 days in advance of the proposed transfer of the title to the facility or property;

2. The notice to the department includes a written agreement between the existing and proposed new owner containing a specific date of transfer of VPA permit responsibility, coverage and liability between them; and

3. The board does not within the 30-day time period notify the existing owner and the proposed owner of its intent to modify or revoke and reissue the VPA permit.

9VAC25-32-240. Minor modification.

A. Upon request of the permittee, or upon board initiative with the consent of the permittee, minor modifications may be made in the VPA permit without following the public involvement procedures.

B. Minor modification may only:

1. Correct typographical errors;

2. Require reporting by the permittee at a frequency other than that required in the VPA permit;

3. Change an interim compliance date in a schedule of compliance to no more than 120 days from the original compliance date and provided it will not interfere with the final compliance date;

4. Allow for a change in name, ownership or operational control when the board determines that no other change in the VPA permit is necessary, provided that a written agreement containing a specific date for transfer of VPA permit responsibility, coverage and liability from the current to the new permittee has been submitted to the department;

5. Delete the listing of a land application site when the pollutant management activity is terminated and does not result in an increase of pollutants which would exceed VPA permit limitations;

6. Reduce VPA permit limitations to reflect a reduction in the permitted activity when such reduction results from a shutdown of processes or pollutant generating activities or from connection of the permitted activity to a POTW;

7. Change plans and specifications where no other changes in the VPA permit are required;

8. Authorize treatment facility expansions, production increases or process modifications which will not cause a significant change in the quantity of pollutants being managed or a significant change in the nature of the pollutant management activity; or

9. Delete VPA permit limitation or monitoring requirements for specific pollutants when the activities generating these pollutants are terminated.

C. An application for a permit amendment to increase the acreage authorized by the permit by 50% or more shall be treated as a new application for purposes of public notice and public hearings.

9VAC25-32-250. Confined animal feeding operations.

A. All confined animal feeding operations shall maintain no point source discharge of pollutants to surface waters except in the case of a storm event greater than the 25-year, 24-hour storm. Concentrated confined animal feeding operations are pollutant management activities subject to the VPA permit program. Two or more confined animal feeding operations under common ownership are considered, for the purposes of this regulation, to be a single confined animal feeding operation if they adjoin each other or if they use a common area or system for the disposal of wastes.

B. Case-by-case designation of concentrated confined animal feeding operations.

1. The board may designate any confined animal feeding operation which does not fall under the definition of concentrated confined animal feeding operation as defined in 9VAC25-20-10 upon determining that it is a potential or actual contributor of pollution to state waters. In making this designation the following factors shall be considered:

a. The size of the operation;

b. The location of the operation relative to state waters;

c. The means of conveyance of animal wastes and process waters into state waters;

d. The slope, vegetation, rainfall, and other factors affecting the likelihood or frequency of discharge of animal wastes and process waste waters into state waters;

e. The means of storage, treatment, or disposal of animal wastes; and

f. Other relevant factors.

2. A VPA permit application shall not be required for a concentrated confined animal feeding operation designated under subdivision 1 of this subsection until the board has conducted an on-site inspection of the operation and determined that the operation shall be regulated under the VPA permit program.

9VAC25-32-260. General VPA permits.

The board may issue a general VPA permit in accordance with the following:

1. Sources. A general VPA permit may be written to regulate a category of pollutant management activities that:

a. Involve the same or similar types of operations;

b. Manage the same or similar types of wastes;

c. Require the same VPA permit limitations or operating conditions;

d. Require the same or similar monitoring; and

e. In the opinion of the board, are more appropriately controlled under a general VPA permit than under individual VPA permits.

2. Administration.

a. General VPA permits will be issued, modified, revoked and reissued, or terminated pursuant to the law and the board's Public Participation Guidelines (9VAC25-10-10 et seq.).

b. The board may require any person operating under a general VPA permit to apply for and obtain an individual VPA permit. Interested persons may petition the board to take action under this subdivision. Cases where an individual VPA permit may be required include the following:

(1) Where the pollutant management activity is a significant contributor of pollution;

(2) Where the owner is not in compliance with the conditions of the general VPA permit;

(3) When a water quality management plan containing requirements applicable to the pollutant management activity is approved; or

(4) When a permitted activity no longer meets the general VPA permit conditions.

c. Any owner operating under a general VPA permit may request to be excluded from the coverage of the general VPA permit by applying for an individual VPA permit.

d. When an individual VPA permit is issued to an owner the applicability of the general VPA permit to the individual permittee is automatically terminated on the effective date of the individual VPA permit.

e. When a general VPA permit is issued which applies to an owner already covered by an individual VPA permit, such owner may request exclusion from the provisions of the general VPA permit and subsequent coverage under an individual VPA permit.

f. A general VPA permit may be revoked as to an individual owner for any of the reasons set forth in 9VAC25-32-210 or subdivision 2 b of this section subject to appropriate opportunity for a hearing.

9VAC25-32-270. Control of disposal of pollutants into wells.

A. No right to dispose of pollutants into wells shall exist under this regulation, except as authorized pursuant to a VPA permit issued by the board.

B. Whenever an applicant for a VPA permit proposes to dispose of pollutants into a well or wells, the proposed disposal shall be prohibited, or specific terms and conditions shall be included in the VPA permit which shall control the proposed disposal in order to prevent the pollution of and protect all beneficial uses of state waters, protect the public health and welfare, and require compliance with all applicable water quality standards.

Part VII
Enforcement

9VAC25-32-280. Enforcement.

A. The board may enforce the provisions of this regulation by:

1. Issuing directives in accordance with the law;

2. Issuing special orders in accordance with the law;

3. Issuing emergency special orders in accordance with the law;

4. Seeking injunction, mandamus or other appropriate remedy as authorized by the law;

5. Seeking civil penalties under the law;

6. Seeking remedies under the law or under other laws including the common law.

B. The board encourages citizen participation in all its activities, including enforcement. In particular:

1. The board will investigate citizen complaints and provide written response to all signed, written complaints from citizens concerning matters within the board's purview;

2. The board will not oppose intervention in any civil enforcement action when such intervention is authorized by statute or Supreme Court rule, or in any administrative enforcement action when authorized by the board's Procedural Rule; and

3. At least 30 days prior to the final settlement of any civil enforcement action or the issuance of any consent special order, the board will publish public notice of such settlement or order in a newspaper of general circulation in the county, city or town in which the pollutant management activity is located, and in the Virginia Register of Regulations. This notice will identify the owner, specify the enforcement action to be taken and specify where a copy of the settlement or order can be obtained. Appeals will be public noticed in accordance with Procedural Rule No. 1 (9VAC25-230-10 et seq.). A consent special order is a special order issued without a public hearing and with the written consent of the affected owner. For the purpose of this chapter, an emergency special order is not a consent special order. The board shall consider all comments received during the comment period before taking final action.

C. When a VPA permit is amended solely to reflect a new owner, and the previous owner had been issued a consent special order that at the time of VPA permit amendment was still in full force and effect, a consent special order issued to the new owner does not have to go to public notice provided that:

1. The VPA permit amendment does not have to go to public notice, and

2. The terms of the new consent order are the same as issued to the previous owner.

D. Notwithstanding subdivision 3 of this subsection, a special order may be issued by agreement at a board meeting without further notice when a public hearing has been scheduled to issue a special order, to the affected owner, whether or not the public hearing is actually held.

Part VIII
Delegation of Authority; Transition

9VAC25-32-290. Delegation of authority.

The director may perform any act of the board provided under this regulation, except as limited by §62.1-44.14 of the Code of Virginia.

9VAC25-32-300. Transition.

A. Effective July 24, 1996, the following will occur:

1. All VPA applications received after that date will be processed in accordance with this regulation.

2. Any owner holding a No-Discharge Certificate will be notified of the deadline for applying for a VPA permit, unless this notification has already been made. All such notifications shall be completed by July 1, 1998. Upon notification that a VPA permit is necessary for the pollutant management activity authorized by the No-Discharge Certificate, the permittee shall have 180 days to apply for a VPA permit. If a VPA permit is required, the existing No-Discharge Certificate will remain in effect until the VPA permit is issued. Concurrent with the issuance of the VPA permit, the No-Discharge Certificate will be revoked subject to appropriate notice and opportunity for public hearing. Notwithstanding the foregoing, all No-Discharge Certificates which do not bear an expiration date shall terminate no later than July 1, 1999.

B. Permits issued by the Department of Health under the authority of the State Board of Health prior to January 1, 2008, shall continue in force until expired, reissued, amended, or terminated in accordance with the permit or this regulation. All owners holding biosolids use construction or operation permits as of January 1, 2008, shall submit an application for a Virginia Pollution Abatement Permit in accordance with this regulation within 180 days before the date of expiration of permits issued prior to January 1, 2008, or at the time of any modification request submitted after January 1, 2008, or by June 1, 2008, whichever is later. All owners of biosolids use facilities shall comply with the applicable requirements set forth in the operational regulations of Part IX (9VAC25-32-310 et seq.) of this chapter.

Part IX
Biosolids Program

Article 1
Definitions and Procedures

9VAC25-32-310. Definitions.

A. For the purposes of this part the following definitions shall apply:

"Biosolids" means a sewage sludge that has received an established treatment for required pathogen control and is treated or managed to reduce vector attraction to a satisfactory level and contains acceptable levels of pollutants, such that it is acceptable for use for land application, marketing or distribution in accordance with this regulation.

"Critical areas/waters" means areas/waters in proximity to shellfish waters, a public water supply, recreation or other waters where health or water quality concerns are identified by the board or the Department of Health.

"Dry tons" means dry weight established as representative of land applied biosolids and expressed in units of English tons.

"Dry weight" means the measured weight of a sample of sewage sludge or biosolids after all moisture has been removed in accordance with the standard methods of testing and often represented as a percent solids.

"Effluent limitations" means schedules of compliance, prohibitions, permit requirements, established under state or federal law for control of sewage discharges.

"Exceptional quality biosolids" means biosolids that have received an established level of treatment for pathogen control and vector attraction reduction and contain known levels of pollutants, such that they may be marketed or distributed for public use in accordance with this regulation.

"Facilities" means processes, equipment, storage devices and dedicated sites, located or operated separately from a treatment works, utilized for sewage sludge management, including but not limited to, handling, treatment, transport and storage of biosolids.

"Generator" means the owner of a sewage treatment works that produces sewage sludge and biosolids.

"Industrial wastes" means liquid or other wastes resulting from any process of industry, manufacture, trade or business, or from the development of any natural resources.

"Land application" means the distribution of either treated wastewater of acceptable quality, referred to as effluent, or stabilized sewage sludge of acceptable quality, referred to as biosolids, upon, or insertion into, the land with a uniform application rate for the purpose of utilization, or assimilation. Bulk disposal of stabilized sludge in a confined area, such as in landfills, is not land application. Sites approved for land application of biosolids in accordance with this regulation are not to be considered to be treatment works.

"Land applier" means someone who land applies biosolids pursuant to a valid permit from the department as set forth in this regulation.

"Local monitor" means a person or persons employed by local government to perform the duties of monitoring the operations of land appliers pursuant to a local ordinance.

"Local ordinance" means an ordinance adopted by counties, cities or towns in accordance with §62.1-44.19:3 of the Code of Virginia.

"Operate" means the act of any person who may have an impact on either the finished water quality at a waterworks or the final effluent at a sewage treatment works, such as to (i) place into or take out of service a unit process or unit processes, (ii) make or cause adjustments in the

operation of a unit process or unit processes at a treatment works, or (iii) manage sewage sludge or biosolids.

"Owner" means the Commonwealth or any of its political subdivisions including sanitary districts, sanitation district commissions and authorities, federal agencies, any individual, any group of individuals acting individually or as a group, or any public or private institution, corporation, company, partnership, firm or association that owns or proposes to own a sewerage system or treatment works as defined in §62.1-44.3 of the Code of Virginia.

"Permit" means an authorization granted by the board to construct, or operate, facilities and specific sites utilized for biosolids management, including land application, marketing and distribution of biosolids.

"Permittee" means a person, firm, corporation, political subdivision or other entity holding a permit approved by the board for the land application, storage or distribution of biosolids as provided for in this regulation.

"Pollutant" means any substance, radioactive material, or waste heat that causes or contributes to, or may cause or contribute to, pollution.

"Pollution" means such alteration of the physical, chemical or biological properties of any state waters or soil as will, or is likely to, create a nuisance or render such waters or soil (i) harmful or detrimental or injurious to the public health, safety or welfare, or to the health of animals, fish or aquatic life; (ii) unsuitable despite reasonable treatment for use as present or possible future sources of public water supply; or (iii) unsuitable for recreational, commercial, industrial, agricultural or for other reasonable uses. Such alteration is also deemed to be pollution, if there occurs: (a) an alteration of the physical, chemical or biological property of state waters or soil, or a discharge or a deposit of sewage, industrial wastes or other wastes to state waters or soil by any owner which by itself is not sufficient to cause pollution, but which, in combination with such alteration of, or discharge, or deposit, to state waters or soil by other owners, is sufficient to cause pollution; (b) the discharge of untreated sewage by any owner into state waters or soil; or (c) the contravention of standards of air or water quality duly established by the State Water Control Board.

9VAC25-32-320. Local enforcement of the regulation.

A. In the event of a dispute between a locality that has adopted a local ordinance for testing and monitoring the land application of sewage sludge and a permittee concerning the existence of a violation, the activity alleged to be in violation shall be halted pending a determination by the director. The decision of the director shall be final and binding unless reversed on judicial appeal pursuant to §2.2-4026 of the Code of Virginia. If the activity is not halted, the director may seek an injunction compelling the halting of the activity, from a court having jurisdiction.

B. Upon determination by the director that there has been a violation of §62.1-44.19:3, 62.1-44.19:3.1 or 62.1-44.19:3.3 of the Code of Virginia, or of any regulation promulgated under those sections, and that such violation poses an imminent threat to public health, safety or welfare, the department shall commence appropriate action to abate the violation and immediately notify the chief administrative officer of any locality potentially affected by the violation.

C. Local governments shall promptly notify the department of all results from the testing and monitoring of the land application of sewage sludge performed by persons employed by local governments and any violation of §62.1-44.19:3, 62.1-44.19:3.1 or 62.1-44.19:3.3 of the Code of Virginia.

9VAC25-32-330. Variances.

A. The board may grant a variance to a procedural, design, or operational regulation by following the appropriate procedures set forth in this section.

B. Requirements for a variance. The board may grant a variance if it finds that the hardship imposed (may be economic) outweighs the benefits that may be received by the public and that the granting of such variance does not subject the public to unreasonable health risks or environmental pollution.

C. Application for a variance. Any owner may apply in writing for a variance. The application should be sent to the appropriate regional office for evaluation. The application shall include:

1. A citation of the regulation from which a variance is requested.

2. The nature and duration of variance requested.

3. A statement of the hardship to the owner and the anticipated impacts to the public health and welfare if a variance were granted.

4. Suggested conditions that might be imposed on the granting of a variance that would limit its detrimental impact on public health and welfare.

5. Other information, if any, believed to be pertinent by the applicant.

6. Such other information as may be required to make the determination in accordance with subsection B of this section.

D. Consideration of a variance.

1. The board shall act on any variance request submitted pursuant to this subsection within 90 days of receipt of request.

2. In the board's consideration of whether a biosolids use variance should be granted, the board shall consider such factors as the following:

a. The effect that such a variance would have on the adequate operation of the biosolids use facility, including public nuisance concerns;

b. The cost and other economic considerations imposed by this requirement; and

c. The effect that such a variance would have on the protection of the public health or the environment.

E. Disposition of a variance request.

1. The board may grant the variance request and if the board proposes to deny the variance it shall provide the owner an opportunity to an informal hearing as provided in §2.2-4019 of the Code of Virginia. Following this opportunity for an informal hearing the board may reject any application for a variance by sending a rejection notice to the applicant. The rejection notice shall be in writing and shall state the reasons for the rejection. A rejection notice constitutes a case decision.

2. If the board proposes to grant a variance request submitted pursuant to this regulation, the applicant shall be notified in writing of this decision. Such notice shall identify the variance, the biosolids use facility involved, and shall specify the period of time for which the variance will be effective. Such notice shall provide that the variance will be terminated when the biosolids use facility comes into compliance with the applicable regulation and may be terminated upon a finding by the board that the biosolids use facility has failed to comply with any requirements or schedules issued in conjunction with the variance. The effective date of the variance shall be 15 days following its issuance.

F. Posting of variances. All variances granted for the design or operation of biosolids use facility are nontransferable. Any requirements of the variance shall become part of the permit for biosolids use subsequently granted by the board.

9VAC25-32-340. Permits.

No owner shall cause or allow any land application, marketing or distribution of biosolids except in compliance with a permit issued by the board that authorizes these activities. Application for a permit shall be in accordance with 9VAC25-32-60. Information for the permit application is to be provided by completion and submission of the appropriate application forms and applicable sections in Article 4 (9VAC25-32-670 et seq.) of this part to the appropriate regional office. Applications can be obtained from any regional office.

A separate biosolids use permit shall be issued for each political jurisdiction (county or city) where land application is to be undertaken.

9VAC25-32-350. Procedures for obtaining a certificate to construct and certificate to operate.

No owner shall cause or allow the construction, expansion, modification, or operation of facilities necessary for biosolids treatment or storage except in compliance with a certificate to construct (CTC) and a certificate to operate (CTO) issued by the board in accordance with the Sewage Collection and Treatment Regulations (9VAC25-790).

9VAC25-32-355. Biosolids Use Regulation Advisory Committee.

A. The department shall appoint a committee to advise the department on issues related to implementation and administration of this part. Advisory committee membership should include representatives of large size and small size communities and industries and their consultants. The advisory committee shall contain a maximum of 25 members.

B. The committee members shall be selected from organizations such as:

1. Virginia Association of Counties (VACO) and a representative, such as a local monitor, of a county with sites permitted for land application of biosolids in accordance with this regulation;

2. Virginia Municipal League (VML), the Association of Municipal Wastewater Agencies (VAMWA), and the owners of medium and small flow treatment works;

3. Virginia professional societies (i.e., engineers and soil scientists) and regional wastewater organizations such as the Virginia Water Environment Association;

4. Biosolids consultants and contractors;

5. State university and college faculties;

6. Agricultural industry, the Virginia Farm Bureau and farmers with land permitted in accordance with this regulation;

7. Medical professionals and "at large" citizens; and

8. State agencies such as the Department of Conservation and Recreation, the Department of Health, and the Department of Agriculture and Consumer Services.

C. Consideration shall also be given to appropriate citizens who are not members of these organizations and other interested parties and groups such as citizens' conservation organizations.

D. Each committee member may designate an alternate to serve when necessary.

E. The function of the committee will be to meet, discuss issues, and make recommendations to the department concerning the regulations and standards contained in this part and other policies, procedures and programs for regulating biosolids use and associated fees. The committee's meetings will be advertised and open to the public, and comments and recommendations from the public will be received.

Article 2
Operational and Monitoring Requirements

9VAC25-32-360. Monitoring; records; reporting.

The board may require the owner or operator of any facility to install, use, and maintain monitoring equipment for internal testing of biosolids quality, to identify and determine the causes of operational problems and to determine the necessary corrective actions to correct such problems. If required, test results shall be recorded, compiled, and reported to the department.

9VAC25-32-370. Minimum biosolids sampling and testing program.

A. Sampling and testing methods shall conform to current United States Environmental Protection Agency (EPA) guidelines establishing test procedures for analysis of pollutants or other EPA-approved methods.

B. Either the operation and maintenance manual, sludge management plan, or management practices plan shall contain a specific testing schedule. The testing schedule shall include minimum tests and their frequencies as required to monitor the facility in accordance with the appropriate certificate and the operating permit issued under this regulation.

C. The following sampling instructions shall be followed when collecting samples as required by this regulation:

1. Raw sewage or sludge samples are to be collected prior to the treatment process unit operations.

2. Final treated samples are to be taken at a point following appropriate unit operations in the treatment process. An evaluation of biosolids treatment may require monitoring of fecal coliform levels in the treated sludge.

3. Compositing of samples shall be in accordance with the treatment works operation and maintenance manual. Composite samples of sludge shall consist of grab samples taken in accordance with either the operation and maintenance manual or management practices plan, as appropriate. Composite samples shall be representative of the quality and quantity of the biosolids used. Greater frequency of grab sampling may be desirable where abnormal variation in waste strength occurs. Automatic proportional samplers are considered a valid sampling method.

9VAC25-32-380. Minimum operational testing and control program.

A. Sampling and testing methods shall conform to current United States Environmental Protection Agency (EPA) guidelines establishing test procedures for analysis of pollutants or other EPA-approved methods.

B. The information furnished with either the operation and maintenance manual, sludge management plan, or management practices plan should recommend and describe the control tests and their frequency that should be routinely conducted by the holder of the permit in order to monitor operations and verify the treatment classification achieved (Table 3). All special sampling methods should be identified. Biosolids use site sampling and testing frequencies should be in accordance with the requirements established by the instructions contained in the biosolids use operation and maintenance manual if provided.

C. Additional operational control information may be required on an individual basis by the department.

9VAC25-32-390. Additional monitoring, reporting and recording requirements for land application.

A. Either the operation and maintenance manual, sludge management plan or management practices plan shall contain a schedule of the required minimum tests necessary to monitor land

application operation. Such testing schedule information for land application of biosolids shall contain instructions for recording and reporting. Monitoring of any associated land treatment systems shall be in accordance with the biosolids use operation and maintenance manual if provided.

B. The permit holder shall provide to the department, and to each locality in which it is permitted to land apply biosolids, written evidence of financial responsibility, including both current liability and pollution insurance, or such other evidence of financial responsibility as the board may establish by regulation in an amount not less than $1 million per occurrence, which shall be available to pay claims for cleanup costs, personal injury, bodily injury and property damage resulting from the transport, storage and land application of biosolids in Virginia. The aggregate amount of financial liability maintained by the permit holder shall be $1 million for companies with less than $5 million in annual gross revenue and shall be $2 million for companies with $5 million or more in annual gross revenue.

C. Evidence of financial responsibility, which may include liability insurance, meeting the requirements herein shall be maintained by the permit holder at all times that it is authorized to transport, store or land apply biosolids in Virginia. The permit holder shall immediately notify the Department of Health in the event of any lapse or cancellation of such financial resources, including insurance coverage, as required by this section.

9VAC25-32-400. Additional monitoring, reporting and recording requirements for sewage sludge and residual solids management.

Either the operation and maintenance manual, sludge management plan, or management practices plan shall contain a schedule of required minimum tests and their frequency to be conducted for the sewage sludge and biosolids management system and shall also contain necessary information to document sewage sludge and biosolids quality. Such test schedule information should include instructions for recording and reporting. Monitoring, reporting and recording requirements for sewage sludge and biosolids quality control shall be in accordance with the sludge management plan or management practices plan in accordance with 9VAC25-32-500 B. The recordkeeping and reporting requirements for sewage sludge and biosolids management contained in the treatment works operation and maintenance manual shall apply to all application sites, regardless of size or frequency of application. However, the requirements relative to monitoring, reporting and recording of site-specific soils and monitoring, reporting and recording of ground water and surface water are not applicable for any site that meets either of the following criteria:

1. Whenever exceptional quality biosolids are marketed and distributed with a label or identification information that specifies proper quality information and describes how agronomic rates are to be determined. Also, whenever Class I treated biosolids are land applied so that (i) the annual loading rate will not result in annual maximum loading rates in excess of those specified in Table 8; (ii) applied biosolids will meet vector attraction requirements; (iii) the amount of nutrients applied does not exceed the total crop needs or agronomic loading rate; (iv) no additional biosolids are applied for at least five years, or the biosolids are applied to land maintained only as pasture or hay land for five years following the last application of biosolids and the nutrient loading rate does not exceed 70% of the annual total crop needs of the grass or hay cover (Tables A-2 and 11).

2. Whenever the application site area for biosolids processed by Class I or II treatment is no larger than I0 acres and is isolated (2,000 feet or more separation distance) from other sites receiving applications of biosolids within three years of the time biosolids are applied to the identified site and the necessary vector attraction requirements are met.

The department may recommend that specified site specific monitoring be performed by the holder of the permit for any biosolids land application practice regardless of frequency of application or size of the application area. Such recommendations will occur in situations in which groundwater contamination, surface runoff, soil toxicity, health hazards or nuisance

conditions are identified as an existing problem or documented as a potential problem as a result of biosolids use operations. Requirements of 9VAC 25-32-510 through 9VAC25-32-580 shall apply in full whether or not a monitoring waiver provision is applicable.

9VAC25-32-410. Operation and maintenance manuals.

A. General. The general purpose of an operation and maintenance manual is to facilitate operation and maintenance of the biosolids use facilities within permit requirements for both normal conditions and generally anticipated adverse conditions. The manual shall be tailored to the size and type of system being employed. The manual shall be directed toward the operating staff required for the facility. The manual shall be updated as necessary and be made available to the operating staff. The manual should be designed as a reference document, being as brief as possible while presenting the information in a readily accessible manner.

B. Contents. The manual shall contain the testing and reporting elements required by this regulation. In addition, for information and guidance purposes, the manual should contain additional schedules that supplement these required schedules.

9VAC25-32-420. Operability.

Independently operated essential equipment, or components, of biosolids use facilities, including treatment works, shall be provided with sufficient capacity and routine maintenance resources so that the average quantity of biosolids used may be reliably transported, stored, treated or otherwise managed in accordance with permit requirements. Permit noncompliance shall be prevented in those situations in which the largest component is out of service.

The need for spare parts should be determined from operational experience, evaluation of past maintenance requirements, etc. A spare parts inventory may be included in the operation and maintenance manual. The inventory should list the minimum and maximum quantities of the spare parts to be kept on hand, the equipment in which they are used, their storage location, replacement procedures and other pertinent information.

Sufficient spare parts determined as necessary to ensure continuous operability of essential unit operations and equipment should be either located at the treatment works or at readily accessible locations. The minimum quantities of spare parts actually provided shall be in accordance with the operation and maintenance manual.

9VAC25-32-430. Maintenance.

A regular or routine program of preventive maintenance shall be adhered to. The operations and maintenance manual shall contain a system of maintenance requirements to be accomplished. The routine, minimum preventive maintenance system shall be in accordance with the operations and maintenance manual. Such a system should provide for advanced scheduling of preventive maintenance and should be continually assessed in order to reflect increased service requirements as equipment ages or flow rates increase. Adequate records, files and inventories to assist the operator in his task should also be described in the operation and maintenance manual. Information systems provided for maintenance should describe the documentation required to verify biosolids treatment quality necessary for compliance with permits. Where certain components of the treatment process may be damaged by flooding so as to cause excessive delays in restoring the treatment process to a normal operating level, the means of protecting or removal of such components prior to flooding should be described in the operations and maintenance manual.

9VAC25-32-440. Biosolids monitoring/reporting.

A. Monitoring biosolids quality shall be performed as required for permit compliance. Monitoring frequency shall be sufficient to both reflect the degree of variability, if any, expected in the biosolids quality and the frequency of application. The following guidelines should provide sufficient data for characterizing the quality of biosolids for biosolids programs that land apply continuously throughout the year.

TABLE 1	
Amount of biosolids[(1)] (metric tons per 365-day period)	Frequency
Greater than zero but less than 290	Once per year
Equal to or greater than 290 but less than 1,500	Once per quarter (four times per year)
Equal to or greater than 1,500 but less than 15,000	Once per 60 days (six times per year)
Equal to or greater than 15,000	Per month (12 times per year)
Note: [(1)]Either the amount of bulk sewage applied to the land or the amount of sewage sludge received by a person who prepares sewage sludge that is sold or given away in a bag or other container for application to the land (dry weight basis).	

Note: Sampling shall be conducted at approximately equal intervals at the listed frequencies. Biosolids programs that store biosolids and land apply only during discrete events throughout the year shall schedule sampling events to coincide with application periods. The regulatory agency may require increased monitoring frequencies, if necessary, to adequately define any significant variability in biosolids quality. After two years of monitoring the permittee may request that the monitoring frequency be reduced, but in no case to less than once per year in any year that biosolids are applied to land.

B. An activity report shall be submitted (postmarked) to the department by the 15th day of the month unless another date is specified in the permit in accordance with 9VAC25-32-80 I 4, following any month in which land application occurs. The report shall indicate those sites where land application activities took place during the previous month.

C. Biosolids application rates should be based on the annual average sludge quality. The average sludge quality should be established from the results of approved analytical testing of composite samples obtained during the most recent 12 months of monitoring. For proposed treatment works, rates may be initially based on the biosolids characteristic produced by similar generating facilities.

D. The required treatment and quality characteristics and the maximum allowable land application loading rates shall be established for biosolids use. In addition, operational monitoring results shall verify that required sludge treatment has achieved the specified levels of pathogen control and vector attraction reductions (Table 3). Adequate records on sludge composition, treatment classification, sludge application rates and methods of application for each site shall be maintained by the generator and owner. Table 4 shows a sample operating report for documenting the minimum required information. Reporting shall be yearly (postmarked by February 19 for the preceding calendar year) unless otherwise required. The generator and owner shall maintain the records as necessary for a minimum period of five years until further notification by the department. Sites receiving frequent applications of sludge that meet or exceed maximum cumulative constituent loadings and dedicated disposal sites should be properly referenced for future land transactions (see the sample Sludge Disposal Site Dedication Form - Table A-1).

9VAC25-32-450. Sampling.

A. General. The sampling procedures and protocols used for the national sewage sludge survey (EPA Office of Water Regulations and Standards, March 1988) or validated equivalent methods will be approved by the board through issuance of a permit for biosolids use. Composite samples are better than single grab samples because they define representative "average" levels of sludge characteristics. A large open container such as a one- to two-gallon

capacity bucket will normally be necessary to obtain complete grab samples of sludge flows. The volume or weight of grab samples should be adjusted so as to represent approximately equal volumes or weights of the sludge volume or mass being sampled. These adjusted grab samples can then be added to form a composite sample.

B. Liquid sludge. In the case of digesters and liquid storage holding tanks, a representative sample shall be composed of at least four grab samples obtained during daily operations at the facility or land application site. Samples of liquid biosolids obtained under pressure or vacuum should be obtained shortly after the beginning, during and at the end of the time period that the biosolids are produced at the sampling point.

C. Biosolids storage facilities. Equal volumes of biosolids should be withdrawn from random locations across the width and throughout the length of the storage facility at the surface, mid-depth and near the bottom of the lagoon at each grab sample location. These grab samples should be added to form a composite mix. A range of the recommended minimum number of grab samples that should be obtained from various sizes of sludge lagoons in order to obtain a representative composite sample is:

Lagoon Surface Area (Acres)	Minimum Number of Grab Samples	
	Depth less than 4 feet	Depth greater than 4 feet
1 to 9.99	4 to 5	6 to 8
10 or more	6 to 8	9 to 11

D. Dewatered sludge. Small, equally sized grab samples of the dewatered sludge stream may be taken at equally spaced intervals over the period of operation of the dewatering unit. Centrifuged sludge samples may be taken from a belt conveyor or receiving hopper. Filter cake sludge samples may be taken from a belt conveyor or a portion of the cake may be removed as it leaves the unit. The smaller grab samples should be combined to form a representative composite sample. A composite sample can be obtained over the daily operational period at the land application site.

E. Compost sampling. Composite samples are preferred so that a representative average level of compost characteristics can be obtained from analytical testing. Although the compost material has been subjected to premixing, some variation in quality may exist and at least three grab samples of one kilogram or more should be taken of each mixture and combined to form a composite sample of that mixture. This mixture should be used for analytical testing or for combination with other composites to obtain a total composite sample representing a fixed period of operation. Compost samples may be taken with a scoop or shovel and placed in flexible bags that can be thoroughly shaken to mix grab samples.

F. Analysis and preservation of samples. In general, sludge samples should be refrigerated at approximately 4°C immediately after collection, which provides adequate preservation for most types of sludge physical and chemical analysis for a period up to seven days. Exact sample analysis and preservation techniques should be submitted in the sludge management plan. Analytical procedures should be updated as needed.

9VAC25-32-460. Soils monitoring and reporting.

Soil should be sampled and analyzed prior to sludge application to determine site suitability and to provide background data. After the land application program is underway, it may be necessary to continue monitoring possible changes in the soil characteristics of the application site. Reduced monitoring will usually apply for typical agricultural utilization projects where biosolids are applied to farmland at or below agronomic rates or on an infrequent basis (see Table 5). Reduced monitoring may also apply to one time sludge applications to forest or reclaimed lands. For background analysis, random composite soil samples from the zone of

incorporation is required for infrequent applications and frequent applications at less than agronomic rates (total less than 15 dry tons per acre).

Generally, one subsample per acre should be taken for application sites of 10 acres or more receiving frequent applications. For frequent land application sites greater than 50 acres, a controlled area of approximately 10 acres in size may be provided that is representative of site loading and soil characteristics. The control area should be sampled through random collection of approximately 20 subsamples taken according to standard agricultural practices. Records of soil analysis must be maintained by the owner and submitted as required.

9VAC25-32-470. Crop monitoring and reporting.

Vegetation monitoring may be required by the board upon recommendation of the department once every three years on sites with frequent applications of biosolids applied at or greater than agronomic rates and when 400 pounds per acre or more of available phosphorus has been applied to the soil. Analyses of plant tissue should be conducted at the proper growth stage as recommended by either the Virginia Department of Agriculture and Consumer Services, the Virginia Department of Conservation and Recreation or Virginia Cooperative Extension Service. Routine analyses include nitrate-nitrogen, phosphorus, potassium, calcium, manganese, magnesium, iron, copper and zinc. Analysis for additional parameters may be necessary as determined on a case-by-case basis. Results shall be reported annually to the department.

9VAC25-32-480. Groundwater monitoring and reporting.

A. Monitoring wells may be required by the board as recommended by the department for land treatment sites, sludge lagoons, or sludge holding facilities to monitor groundwater quality. The wells should be designed and located to meet specific geologic and hydrologic conditions at each site. Existing wells or springs may be approved for use as monitoring wells if they can be shown to provide a representative sample of groundwater conditions. The monitoring well should be constructed so as to sample the shallowest occurrence of groundwater that can reliably be obtained. The wells must be deep enough to penetrate the water table, and the screened interval must be in the saturated zone. The well construction should include PVC casing and screen with a bottom end plug or cap. The casing joints should be of the threaded, split ring or some other type that does not require adhesive. The screened interval should be backfilled with washed porous media (sand/gravel) and a bentonite or other impermeable seal placed at least two feet above the screen. The remainder of the well may be backfilled with clean native materials. A concrete surface seal should slope away from the well. Locking caps are recommended. Upon well completion, a driller's log shall be submitted to the department.

B. Sampling procedures must assure maintenance of sample integrity. Samples should be collected in clean sample containers and with an uncontaminated sampling device. In order to obtain a representative sample, standing water in the well must be evacuated prior to sampling. At a minimum, at least three times the volume of water standing in the borehole should be removed prior to taking a sample for analysis to assure movement of formation water into the well and eliminate false readings that would be obtained from water that has stratified in the well. Samples may be obtained by pumping, bailing or pressure methods (e.g., Bar Cad samplers). The state does not endorse any one particular method or manufacturer, but each method has advantages and disadvantages that must be considered prior to final selection. Sampling methodology should be submitted for initial review. To obtain sufficient background groundwater quality data, three to six monthly samples should be collected from each observation well prior to placing the land application site or other facility into operation. Sampling should account for seasonal groundwater table fluctuations. Groundwater samples shall be collected and analyzed on a quarterly basis during operation of the site or facility. Table 6 lists typical parameters for groundwater monitoring. Additional test parameters may be required on a case-by-case basis.

C. Sample analysis and preservation techniques should be in accordance with the latest edition of Standard Methods for the Examination of Water and Wastewater.

TABLE 2
PARAMETERS FOR BIOSOLIDS ANALYSIS[1]

A. Suggested minimum

Source of sludge
Type of sludge (lime stabilized, aerobically digested, etc.)
Percent solids (%)
Volatile solids (%)
pH (standard units)
Total kjeldahl nitrogen (%)
Ammonia nitrogen (%)
Nitrates (mg/kg)
Total phosphorus (%)
Total potassium (%)
Alkalinity as $CaCO_3$ (mg/kg)[2]
Arsenic (mg/kg)
Cadmium (mg/kg)
Copper (mg/kg)
Lead (mg/kg)
Mercury (mg/kg)
Molybdenum (mg/kg)
Nickel (mg/kg)
Selenium (mg/kg)
Zinc (mg/kg)

[1]Values reported on a dry weight basis unless indicated.

[2]Lime treated sludges (10% or more lime by dry weight) should be analyzed for percent $CaCO_3$.

B. Additional parameters such as the organic chemicals listed in Table 12 may be required for screening purposes as well as aluminum (mg/kg), water soluble boron (mg/kg), calcium (mg/kg), chlorides (mg/l), manganese (mg/kg), sulfates (mg/kg), and those pollutants for which removal credits are granted.

C. Microbiological testing may be necessary to document the sludge treatment classification (Table 3). Microbiological standards shall be verified by the log mean of the analytical results from testing of nine or more samples of the sludge source. Sampling events shall be separated by an appropriate period of time so as to be representative of the random and cyclic variations in sewage characteristics.

TABLE 3
STANDARDS FOR DOCUMENTATION OF PATHOGEN CONTROL AND VECTOR ATTRACTION REDUCTION LEVELS FOR BIOSOLIDS

A. Pathogen control standards (dry weight of sludge solids basis).

1. Class I treatment for Class A pathogen control.

a.[1] Composting or other acceptable time-temperature treatment* shall result in a biosolids content equal to or less than either 1,000 fecal coliform per gram or three salmonella per four grams of total solids in treated sludge prior to removal for use or preparation for distribution.

b. Stabilization**[2] Verify a biosolids content less than either 1,000 MPN fecal coliform per gram of total solids, or three salmonella, or one virus (PFU), or one helminth egg, per four grams of total sludge solids and provide that vector attraction reduction requirements will be met upon use.

2. Class II treatment for Class B pathogen control.

a.[1] When the influent sludge stream to the stabilization unit operation contains more than 6 log10 fecal coliform per gram of total solids, a reduction of 1.5 log10 of fecal coliform or more may be required for stabilization.

b. Stabilization[2]. Verify biosolids content maximum of 6.3 log10 of fecal coliform per gram of total solids in sludges subjected to adequate treatment and provide that vector attraction reduction requirements will be met upon use.

B. Vector attraction reduction requirements (must satisfy one of the following for approval of land application of biosolids).

1. Thirty-eight percent volatile solids (VS) reduction by digestion processes, or:

a. Less than 38% reduction by anaerobic digestion if additional treatment (additional 40 days or more at 32°C or more) results in less than 17% additional VS reduction:

Additional VS Reduction = VSD1%BFVSD2 / VSD1%BF(VSD1)(VSD2)

D1 = Initial conventional digestion period

D2 = Additional 40-day digestion period

b. Less than 38% reduction by aerobic digestion if the specific oxygen uptake rate (SOUR) of sludge is 1.5 or less milligrams of oxygen per hour per gram of total sludge solids (dry weight basis) at a temperature of 20°C.

c. Less than 38% reduction by aerobic digestion if additional treatment (additional 30 days or more at 20°C or more) results in less than 15% additional VS reduction.

d. Less than 38% reduction if treated in an adequately aerated unit operation for 14 days or more at a temperature exceeding 40°C and the average sludge temperature exceeds 45°C.

2. Sludge pH is 12 or more (alkaline addition) for two consecutive hours and remains at 11.5 or higher for 22 additional hours (no further alkaline additions), or

3. Seventy-five percent or more total solids in treated sludge if no untreated primary sludge is included, or 90% total solids if unstabilized primary sludge is included, prior to any mixing with other materials, or

4. Either incorporation of treated sludge into the soil within six hours of surface application, or direct injection below the surface of the land so that no evidence of any significant amounts of sludge is present on the land surface within one hour of injection.

5. For land application of biosolids receiving Class I treatment:

a. For surface application: apply to land within eight hours of final treatment and incorporate below the surface within six hours of application, or achieve one of the appropriate vector attraction reduction requirements by treatment.

b. For subsurface application: inject within eight hours of final treatment or achieve one of the appropriate vector attraction reduction requirements by treatment.

C. Documentation statement for submission of treatment, or quality, verification reports:

I have submitted the proper documentation to verify that the necessary levels of pathogen reduction and vector attraction reduction have been achieved for all sludge to be land applied in accordance with the permit requirements. These determinations have been made under my direction and supervision in accordance with approved procedures developed to ensure that qualified personnel obtain and evaluate the information necessary to ensure permit compliance. Also, the sludge quality characteristics are suitable for land application in accordance with permit requirements (if appropriate).

Signed by Responsible Person in Charge

(Title if appropriate) Date

[1] Note: Refers to an acceptable method of treatment with established operational controls capable of treating sludge to produce the required microbiological standards (see Article 3 (9VAC25-32-490 et seq.) of this part.

[2] Refers to testing standards.

TABLE 4
EXAMPLE OF REPORT FOR SUBMISSION TO FIELD OFFICES

FIELD REPORT

PROJECT/PERMITTEE:_____ PERMIT NO./FIELD NO:_____

(LAND OWNER/FARMER:)_____ FIELD ACRES:_____

APPLICATION MODE: _____ DATE AS OF:_____

GALLONS, WET TONS OR CUBIC YARDS

APPLIED: Month to Date_____ Year to Date_____

DRY TONS/ACRE APPLIED: Month to Date_____ Year to Date_____

Lifetime to Date_____

CROP/YIELD _____ SOIL pH _____

LBS. APPLIED/ACRE

SLUDGE PARAMETER	MONTH TO DATE	YEAR TO DATE	LIFETIME TO DATE
P.A.N.	N/A		
$CaCO_3$	N/A		
P	N/A		
K	N/A		
As			
Cd			
Cu			
Mo			
Ni			
Pb			
Se			
Zn			
Other:			

DAILY LOADING FIELD SHEET			
DATE	SOLIDS	GALLONS, WET TONS OR CUBIC YARDS	DRY TONS
TOTALS			

(If nuisance problems of odors or problems with uniform applications develop, the appropriate regional offices of the Virginia Department of Environmental Quality shall be notified.)

Upon such notification, were any operational changes made? Yes* __No __

*Specify the methods utilized to comply with treatment/application requirements on a separate attachment.

TABLE 5
RECOMMENDED SOIL TEST PARAMETERS FOR LAND APPLICATION SITES[1]

	BIOSOLIDS APPLICATION			STORAGE
Parameter	Infrequent[2]	Frequent Below Agronomic Rates[2]	Frequent at Agronomic[2] [3]	Supernatant[4]
Soil organic matter (%)			*	*
Soil pH (Std. Units)	*	*	*	*
Cation exchange capacity (me/100g)			*	
Total nitrogen (ppm)			*	*
Organic nitrogen (ppm)			*	*
Ammonia nitrogen (ppm)			*	
Available phosphorus (ppm)	*	*	*	*
Exchangeable potassium (ppm)	*	*	*	
Exchangeable sodium (mg/100g)			*	*
Exchangeable calcium (mg/100g)			*	*
Exchangeable magnesium (mg/100g)	*		*	*
Copper (ppm)			*	*
Nickel (ppm)			*	*
Zinc (ppm)			*	*
Cadmium (ppm)			*	*
Lead (ppm)			*	*
Manganese (ppm)			*	
Molybdenum (ppm)			*	
Selenium (ppm)			*	
Particle size analysis or USDA Textural estimate (%)			*	*
Hydraulic conductivity (in/hr)				*

[1]Note: Unless otherwise stated, analyses shall be reported on a dry weight basis(*).

[2]See 9VAC25-32-560 B 3.

[3]Testing requirements to be adjusted in accordance with prior analytical test results. Heavy metal analyses are not required but once every three years before application.

[4]Liquid biosolids derived from biosolids use facilities.

TABLE 6 SUGGESTED GROUNDWATER MONITORING PARAMETERS AND MONITORING FREQUENCY	
Annual Monitoring	Quarterly Monitoring
Total Kjeldahl Nitrogen	Nitrate Nitrogen
Ammonia Nitrogen	pH
Phosphorus	Conductivity
Sodium	Chlorides
Boron	Static Water Level
Copper	
Lead	
Nickel	
Cadmium	
Zinc	
Hardness	
Alkalinity	
COD (TOC)	
Pathogen Indicator Organism	

Article 3
Biosolids Use Standards and Practices

9VAC25-32-490. Compliance with biosolids use practices of this chapter.

Guidelines set forth in 9VAC25-32-500 through 9VAC25-32-660 of this regulation specify minimum standards for biosolids use for land application, marketing and distribution, including biosolids quality and site specific management practices. Compliance with this chapter will not be required for facilities not including land application, distribution, or marketing, which have received the approval of the Commissioner of the State Department of Health and the State Water Control Board and for which operation has commenced as of January 1, 2008. Such operation of facilities is deemed to be commenced upon issuance of a certificate to operate in accordance with the Sewage Collection and Treatment Regulations (9VAC25-790). However, the board may impose standards and requirements that are more stringent than those contained in this regulation when required to protect public health or prevent nuisance conditions from developing either within critical areas, or when special conditions develop prior to or during biosolids use operations. Conformance to local land use zoning and planning should be resolved between the local government and the facility owner or permit holder. Applications submitted for facilities must demonstrate that the facility and biosolids use management practices will adequately safeguard public health and will comply with the certificate and permit requirements, as appropriate. Submissions that are in substantial compliance with this regulation and comply with any additional requirements as noted above will be approved. Justification for biosolid use proposals may be required for those portions of the submitted proposal that differ from these criteria. The owner or owner's agent shall identify and justify noncompliance with specific standards or "shall" criteria that the department identifies, or the applicant, in his judgment, believes to be substantial in nature. The department may request changes in designs that are not in substantial compliance with this regulation and that are not adequately justified by the applicant. The fact that

significant work was accomplished on a specific permit application prior to adoption of this regulation shall be a consideration when evaluating applications.

9VAC25-32-500. Sludge management.

A. Sludge management activities shall be described in a sludge management plan or a management practices plan submitted by the owner or the owner's agent to the department for review and approval in accordance with this section. Before sludge is utilized or disposed of, its potential effects on the land and state waters should be evaluated. Land application and facilities for biosolids use shall not result in flooding or pose a hazard to public health, wildlife, water quality, or other environmental resources as a result of biosolids transport due to flooding and subsequent runoff. Treatment works owners involved in biosolids use management practices may need to require pretreatment of industrial waste for control of contaminants of concern in order to comply with this regulation.

B. The scope and purpose, requirements, and submission and approval of sludge management plans or management practices plans are described in this subsection.

1. The general purpose of these plans is to facilitate a determination by the board that the sludge management plan or management practices plan developed by the owner presents the necessary technical guidance and regulatory requirements to facilitate the proper management of sewage sludge including use of biosolids for both normal conditions and generally anticipated adverse conditions. The plan should be developed as a reference document, being as brief as possible while presenting the information in a clear, concise and readily accessible manner. The plan should be directed toward the management option(s) for biosolids use selected for the treatment works. The plan shall address methods of controlling and monitoring the quality of sludge by the owner and the means of use of biosolids developed from that sludge by the owner or his agent (9VAC25-32-670 and 9VAC25-32-680).

2. Complete sludge management plans or management practices plans shall be submitted for all biosolids use activities, by the owner, or owner's agent. The plan shall contain the elements required by applicable sections of this regulation (9VAC25-32-670 and 9VAC25-32-680).

3. Submission and approval of sludge management plans or management practices plans involving the land application of biosolids shall be at the time of permit application as follows:

a. Three copies of the final sludge management plan or management practices plan shall be submitted to the appropriate regional office. The technical evaluation of the plan will not commence until the applicant has submitted all necessary information.

b. Upon receipt of comments or no response by contacted agencies the department will complete the evaluation of the plan and the board will approve or disapprove the plan as technically adequate.

c. The board will approve the plan if it is determined that biosolids use will be in compliance with Article 2 (9VAC25-32-360 et seq.) of this part. If the board determines that substantial revision to the plan is required, the department shall send a letter to the owner and plan preparer, outlining the necessary revision and requesting submission of a revised plan within 60 days. A revised plan constitutes a resubmittal.

9VAC25-32-510. General biosolids use standards.

A. 9VAC25-32-510 and 9VAC25-32-550 provide minimum criteria that will be used for reviewing sludge management plans and management practices plans. Each plan shall address site-specific management practices involving use of biosolids. Final disposition of sludge may involve use or disposal. For the purpose of 9VAC25-32-510 and 9VAC25-32-550, "use" shall include resource recovery, recycling or deriving beneficial use from the material. "Disposal" shall involve the final disposition of a waste material without resource recovery, recycling or deriving beneficial use from the material.

B. All practical use options should be evaluated before disposal options are evaluated or selected. Biosolids use practices include land application for agricultural, nonagricultural and silvicultural use and the distribution and marketing of exceptional quality biosolids. Sludge disposal methods include incineration, landfill codisposal, surface disposal, and other dedicated disposal practices, such as burial on dedicated disposal sites.

C. Water quality protection and monitoring provisions shall be included in all sludge management plans and management practices plans, except for those land application practices designed for limited loadings (amounts per area per time period) within defined field areas in agricultural use. Groundwater monitoring requirements shall be evaluated by the board for annual application of biosolids to specific sites, reclamation of disturbed and marginal lands and application to forest land (silviculture). Submittal of site-specific (soils and other) information for each identified separate field area shall be required for issuance of permits. For information regarding handling and disposal of septage, refer to the Sewage Handling and Disposal Regulations, 12VAC5-610. Septage treated and managed in accordance with standards contained in this regulation is defined as either sewage sludge or as biosolids as appropriate.

D. Conformance of biosolids use to local land use zoning and planning should be resolved between the local government and the permit applicant. The permit applicant shall attempt to notify land owners of property within 200 feet and 1,000 feet of the boundaries of sites proposed for frequent use and dedicated sites, respectively, and furnish the department and the chief executive officer or designee for the local government where the site is located with acceptable documentation of such notifications (i.e., intent to land-apply biosolids on the proposed locations). Relevant concerns of adjacent landowners will be considered in the evaluation of site suitability.

E. The requirements for processing approvals of sludge management plans and management practices plans are included in 9VAC25-32-500 B as well as (i) requirements for notification of applications, hearings and meetings, and (ii) minimum information required for completion of a sludge management plan for land application (9VAC25-32-670 and 9VAC 25-32-680).

F. At least 100 days prior to commencing land application of biosolids at a permitted site, the permit holder shall deliver or cause to be delivered written notification that is substantially in compliance with this section to the chief executive officer or designee for the local government where the site is located. This requirement may be satisfied by providing a list of available permitted sites in the locality at least 100 days prior to commencing the application at any site on the list. If the site is located in more than one county, the information shall be provided to all jurisdictions where the site is located. Sufficiency of such notices shall be determined by the department.

G. The notification required by this section shall include the following:

1. The name, address and telephone number of the permit holder, including the name of a representative knowledgeable of the permit;

2. Identification by tax map number and farm service agency (FSA) farm tract number of parcels on which land application is to take place;

3. A map indicating haul routes to each site where land application is to take place;

4. The name or title, and telephone number of at least one individual designated by the permit holder to respond to questions and complaints related to the land application project;

5. The approximate dates on which land application is to begin and end at the site;

6. The name and telephone number of the person or persons at the Virginia Department of Health to be contacted in connection with the permit; and

7. The name, address, and telephone number of the wastewater treatment facility, or facilities, from which the biosolids will originate, including the name or title of a representative of the treatment facility that is knowledgeable about the land application operation.

H. The permit holder shall deliver or cause to be delivered written notification to the department as least 14 days prior to commencing land application of sewage sludge at a permitted site. The notice shall identify the location of the permitted site and the expected sources of the sewage sludge to be applied to the site.

I. Within 24 hours of receiving notification of a complaint, the permit holder shall commence investigation of said complaint. The permit holder shall confirm receipt of a complaint by phone, email or facsimile to the department, the chief executive officer or designee for the local government of the jurisdiction in which the complaint originates, and the owner of the treatment facility from which the biosolids originated within 24 hours after receiving the complaint. Complaints and responses thereto shall be documented by the permit holder and submitted with monthly land application reports to department and copied to the chief executive officer or designee for the local government and the owner of the treatment facility from which the biosolids originated.

Localities receiving complaints concerning land application of sewage sludge shall notify the department and the permit holder.

9VAC25-32-520. Sludge quality and composition.

A. Sampling and testing sludge. Samples shall be collected so as to provide a representative composition of the sludge. Analytical testing shall be performed by a laboratory capable of testing in accordance with current EPA-approved methods or other accepted methods. The operational section of this regulation establishes the minimum constituents that shall be analyzed and the sampling and preservation procedures that should be utilized. The sludge management plan or management practices plan shall detail both the sampling and testing methods used to characterize the sludge.

B. Nonhazardous declaration. Regulations under the Resource Conservation and Recovery Act (RCRA) and the Virginia Hazardous Waste Management Regulations (9VAC20-60) identify listed hazardous wastes and hazardous waste characteristics. Municipal wastewater or sewage sludge is neither excluded nor specifically listed as hazardous waste. Hazardous wastes as established through RCRA and appropriate state regulations are not managed under this regulation. The owner shall monitor sludge characteristics as required to determine if it is hazardous or nonhazardous and declare to the department that the sludge generated at his facility is nonhazardous.

C. Sludge treatment. Sludges shall be subjected to a treatment process sequence designed to reduce both the pathogen content and the solids content to the appropriate level for the selected method of management, such as land application. For such use options, the sludge treatment provided shall minimize the potential for vector attraction and prevent objectionable odor problems from developing during management. Acceptable levels of pathogen reduction may be achieved by various established conventional treatment methods including Class I treatment to accomplish Class A pathogen control and Class II treatment to accomplish Class B pathogen control 9VAC25-32-610. The level of pathogen control achieved by nonconventional treatment must be verified by microbiological monitoring (Table 3).

For land application, Class B pathogen, or better, shall be achieved. Such Class I or II treatment may involve either: anaerobic or aerobic digestion, high or low temperature composting, heat treatment, air drying, or chemical treatment processes utilizing alkaline additives or chlorine. For use of treated sludge or sludge products involving a high potential for public contact, it may be necessary to achieve further pathogen reduction (Class A) beyond that attained by the above processes. Such Class I treatment may be accomplished by (i) heat treatment and drying, (ii) thermophilic composting, (iii) alkaline treatment. A three-log reduction or more (a thousand-fold reduction) in pathogenic bacteria and viral microorganisms to meet conventional treatment standards. Raw sludge levels of pathogenic bacteria and viral microorganisms can be effectively reduced to safe levels by conventional Class I treatment methods.

Properly treated sludges can be safely utilized and should not create any nuisance problems when managed in accordance with approved sludge management or management practices plans. A

sludge that receives Class I or II treatment for adequate pathogen control and is treated or managed to properly reduce vector attraction and pollutants within acceptable levels (Table 7-A) is referred to as "biosolids." A Class I treated sludge with approved control of vector attraction and acceptable levels of pollutants (Table 7-A) is referred to as "exceptional quality biosolids."

D. Sludge composition. The characterization of sludge properties is a necessary first step in the design of a use/disposal system. Monitoring and testing for certain pollutants shall be achieved prior to specific use or disposal practices. For the purposes of this regulation, sludge management and testing methods shall account for moisture content including (i) liquid sludge defined as sludges with less than 15% total solids, (ii) dewatered sludge normally defined as sludges with 15% to 30% total solids; or (iii) dried sludge normally defined as sludges with more than 30% total solids.

9VAC25-32-530. Land acquisition and management control.

A. When land application of sludge is proposed, the continued availability of the land and protection from improper concurrent use during the utilization period shall be assured. A written agreement shall be established between the landowner and owner to be submitted with the permit application, whereby the landowner, among other things, shall consent to apply sewage sludge on his property. The responsibility for obtaining and maintaining the agreements lies with the party who is the holder of the permit. Site management controls shall include access limitations relative to the level of pathogen control achieved during treatment. In addition, agricultural use of sludge in accordance with this regulation is not to result in harm to threatened or endangered species of plant, fish, or wildlife, nor result in the destruction or adverse modification of the critical habitat of a threatened or endangered species. Site-specific information shall be provided as part of the sludge management or management practices plan.

B. At least 48 hours prior to delivery of biosolids for land application on any site permitted under this regulation, the permit holder shall post a sign at the site that substantially complies with this section, is visible and legible from the public right-of-way, and conforms to the specifications herein. If the site is not located adjacent to a public right-of-way, the sign shall be posted at or near the intersection of the public right-of-way and the main site access road or driveway to the site. The department may grant a waiver to this or any other requirement, or require alternative posting options due to extenuating circumstances. The sign shall remain in place for at least 48 hours after land application has been completed at the site.

C. The sign shall be made of weather-resistant materials and shall be sturdily mounted so as to be capable of remaining in place and legible throughout the period that the sign is required at the site. Signs required by this section shall be temporary, nonilluminated, four square feet or more in area and shall only contain the following information:

1. A statement that biosolids are being land-applied at the site;

2. The name and telephone number of the permit holder as well as the name or title, and telephone number of an individual designated by the permit holder to respond to complaints and inquiries; and

3. Contact information for the Virginia Department of Health, including a telephone number for complaints and inquiries.

D. The permit holder shall promptly replace or repair any sign that has been removed from a land application site prior to 48 hours after completion of land application or that has been damaged so as to render any of its required information illegible.

9VAC25-32-540. Transport.

A. Transport routes should follow primary highways, should avoid residential areas when possible, and should comply with all Virginia Department of Transportation requirements and standards. Transport vehicles shall be sufficiently sealed to prevent leakage and spillage of sludge. For sludges with a solids content of less than 15%, totally closed watertight transport vehicles with rigid tops shall

be provided to prevent spillage unless adequate justification is provided to demonstrate that such controls are unnecessary. The board may also require certain dewatered sludges exceeding 15% solids content to be handled as liquid sludges. The minimum information for sludge transport that shall be supplied in the sludge management plan is listed in 9VAC25-32-670 and 9VAC25-32-680.

B. The permit holder shall be responsible for the prompt cleanup and removal of biosolids spilled during transport to the land application site or to or from a storage facility. The operations manual shall include a plan for the prevention of spills during transport and for the cleanup and removal of spills. The permit holder shall ensure that its personnel, subcontractors or the drivers of vehicles transporting biosolids for land application shall be properly trained in procedures for spill removal and cleanup.

C. The permit holder shall take appropriate steps to prevent drag-out and track-out of dirt and debris or biosolids from land application sites onto public roads. Where material is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly as soon as practicable, but no later than the end of each day.

D. The permit holder shall promptly report offsite spills to the Virginia Department of Health, the chief executive officer or designee for the local government and the owner of the facility generating the biosolids. The report shall be made verbally as soon as possible, but no later than 24 hours after the discovery of the spill. After business hours notification may be provided by voicemail, facsimile or email.

E. A written report, which shall include a description of measures taken in response to the spill, shall be submitted by the permit holder to the Virginia Department of Health, the chief executive officer or designee for the local government and the owner of the facility generating the biosolids within five working days of the spill. The report may be sent by first class mail, facsimile or email, or it may be hand delivered.

9VAC25-32-550. Storage facilities.

A. No person shall apply to the Department of Environmental Quality for a permit, a variance, or a permit modification authorizing storage of sewage sludge without first complying with all requirements adopted pursuant to §62.1-44.19:3 R of the Code of Virginia.

B. Three types of storage may be integrated into a complete sludge management plan including (i) "emergency storage" involving immediate implementation of storage for any sludge that becomes necessary due to unforeseen circumstances, (ii) "temporary storage" involving the provision of storage of stabilized sludges at the land application site that becomes necessary due to unforeseen climatic events that preclude land application of biosolids in the day that it is transported from the generator, or (iii) "routine storage" involving the storage of biosolids as necessary for all nonapplication periods of the year. Only routine storage facilities shall be considered a facility under this regulation.

C. Emergency storage. The owner shall notify the department upon implementation of any emergency storage. Approval of such storage and subsequent processing of the sludge and supernatant will be considered as a contingency plan integrated into the sludge management plan. Only emergency storage shall be used for storage of unstabilized sludges. Further processing utilization and disposal shall be conducted in accordance with the approved sludge management plan. Design and implementation of facilities used for emergency storage shall not result in water quality, public health or nuisance problems.

D. Temporary storage. The owner shall notify the department whenever it is necessary to implement temporary storage. Temporary storage may be utilized at the land application site due to unforeseen climatic factors that preclude application of sludge (either offloaded at the site or in transport to the site) to permitted sites within the same working day. Temporary storage is not to be used as a substitute for routine storage and is restricted as follows:

1. Sludge stored at the site shall be land applied prior to additional offloading of sludge at the same site;

2. The owner shall be restricted to storing a daily maximum amount of 100 wet tons per operational site;

3. The stored sludge shall be land applied within 30 days from the initiation of storage or moved to a routine sludge facility;

4. Approval of plans for temporary storage will be considered as part of the overall sludge management plan;

5. Temporary storage shall not occur in areas prone to flooding at a 25-year or less frequency interval;

6. A synthetic liner shall be required for placement under and over sludge stored in this manner with one exception: where sludge is stockpiled for less than seven days, a liner placed under the stored sludge is not required. Surface water diversions and other best management provisions (BMP) should be utilized as appropriate; and

7. Temporary storage shall not result in water quality, public health or nuisance problems.

E. Routine storage. Routine storage facilities shall be provided for all land application projects if no alternative means of management is available during nonapplication periods. Plans and specifications for any surface storage facilities (pits, ponds, lagoons) or aboveground facilities (tanks, pads) shall be submitted as part of the minimum information requirements.

1. Location. The facility shall be located at an elevation that is not subject to, or is otherwise protected against, inundation produced by the 100-year flood/wave action as defined by U.S. Geological Survey or equivalent information. Storage facilities should be located to provide minimum visibility. All storage facilities with a capacity in excess of 100 wet tons and located offsite of property owned by the generator shall be provided with a minimum 750-feet buffer zone. The length of the buffer zone considered will be the distance measured from the perimeter of the storage facility. Residential uses, high-density human activities and activities involving food preparation are prohibited within the buffer zone. The board may consider a reduction of up to half of the above buffer requirements based on such facts as lagoon area, topography, prevailing wind direction, and the inclusion of an effective windbreak in the overall design.

2. Design capacity. The design capacity shall be sufficient to store a minimum volume equivalent to 60 days or more average production of biosolids and the incidental wastewater generated by operation of the treatment works plus sufficient capacity necessary for: (i) the 25 year-24 hour design storm (incident rainfall and any runoff as may be present); (ii) net precipitation excess during the storage period; and (iii) an additional one foot freeboard from the maximum water level (attributed to the sum of the above factors) to the top berm elevation. Storage capacity of less than that specified above will be considered on a case-by-case basis only if sufficient justification warrants such a reduction. If alternative methods of management cannot be adequately verified, contractors should provide for a minimum of 30 days of in-state routine storage capacity for the average quantity of sludge transported into Virginia from out-of-state treatment works generating at least a Class II level treated sludge.

3. Construction. Storage facilities shall be of uniform shape (round, square, rectangular) with no narrow or elongated portions. The facilities shall be lined in accordance with the requirements contained in sewerage regulations or certificate. The facilities shall also be designed to permit access of equipment necessary for loading and unloading biosolids, and should be designed with receiving facilities to allow for even distribution of sludge into the facility. Design should also provide for truck cleaning facilities as may be necessary. Storage

facilities with a capacity of 100 wet tons or less shall comply with the provision for temporary storage as a minimum.

4. Monitoring. All sludge storage facilities in excess of 100-wet ton capacity shall be monitored in accordance with the requirements of this regulation. Plans and specifications shall be provided for such a monitoring program in accordance with the minimum information specified in Article 4 (9VAC25-32-670 et seq.) of this part.

5. Operation. Only biosolids suitable for land application (Class A or B biosolids) shall be placed into permitted routine storage facilities. Storage of biosolids located offsite or remote from the wastewater treatment works during the summer months shall be avoided whenever possible so that the routine storage facility remains as empty as possible during the summer months. Storage facilities should be operated in a manner such that sufficient freeboard is provided to ensure that the maximum anticipated high water elevation due to any and all design storm inputs is not less than one foot below the top berm elevation. Complete plans for supernatant disposal shall be provided in accordance with Article 4 (9VAC25-32-670 et seq.) of this part. Plans for supernatant disposal may include transport to the sewage treatment works, mixing with the biosolids for land application or land application separately. However, separate land application of supernatant will be regulated as liquid sludge; additional testing, monitoring and treatment (disinfection) may be required. The facility site shall be fenced to a minimum height of five feet; gates and locks shall be provided to control access. The fence should be posted with signs identifying the facility. The fence should not be constructed closer than 10 feet to the outside edge of the facility or appurtenances, to allow adequate accessibility.

6. Closure. An appropriate plan of closure or abandonment shall be developed by the permittee when the facility ceases to be utilized and approved by the board. Such plans may also be reviewed by the Department of Health.

7. Recordkeeping. A manifest system shall be developed, implemented and maintained and be available for inspection during operations as part of the overall daily recordkeeping for the project Article 4 (9VAC25-32-670 et seq.) of this part.

9VAC25-32-560. Biosolids utilization methods.

A. Requirements applicable to land application of biosolids.

1. All biosolids application rates, application times and other site management operations shall be restricted as specified in the approved management practices plan. The management practices plan shall include a nutrient management plan as required by 9VAC25-32-680 and prepared by a certified nutrient management planner as stipulated in regulations promulgated pursuant to §10.1-104.2 of the Code of Virginia.

2. Biosolids shall be treated to meet standards for land application as required by Part IX (9VAC25-32-310 et seq.) of this chapter prior to delivery at the land application site. No person shall alter the composition of biosolids at a site approved for land application of biosolids under a Virginia Pollution Abatement Permit. Any person who engages in the alteration of such biosolids shall be subject to the penalties provided in Article 6 (§62.1-44.31 et seq.) of Chapter 3.1 of Title 62.1 of the Code of Virginia. The addition of lime or deodorants to biosolids that have been treated to meet standards for land application as required by Part IX (9VAC25-32-310 et seq.) of this chapter shall not constitute alteration of the composition of biosolids. The board may authorize public institutions of higher education to conduct scientific research on the composition of biosolids that may be applied to land.

B. Agricultural use. Agricultural use of sewage sludge is the land application of biosolids (Table 7) to cropland or pasture land to obtain agronomic benefits as a plant nutrient source and soil conditioner. This use shall require a system design that ensures that the land application procedures are performed in accordance with sound agronomic principles.

1. Sludge treatment. As a minimum, biosolids that are applied to the land or incorporated into the soil shall be treated by a Class II pathogen treatment process and shall be treated or managed to provide an acceptable level of vector attraction reduction.

2. Site soils. Soils best suited for agricultural use should possess good tilth and drainage capabilities, have moderate to high surface infiltration rates and moderate to slow subsoil permeability. Depth to bedrock or restrictive layers should be a minimum of 18 inches. Depth to the seasonal water table should exceed 18 inches as defined by the Soil Conservation Service soil survey. If such information is not available the water table depth may be determined by soil characteristics or water table observations. If the soil survey or such evidence indicates that the seasonal water table can be less than 18 inches below the average ground surface, soil borings shall be utilized within seven days prior to land application operations during periods of high water table for the soil series present, to verify that the 18-inch depth restriction is complied with during field operations. The use of soil borings and water table depth verification may be required for such sites from November to May (during seasonal high water table elevations) of each year depending on soil type. Constructed channels (agricultural drainage ditch) may be utilized to remove surface water and lower the water table as necessary for crop productions and site management.

The pH of the biosolids and soil mixture shall be 6.0 or greater at the time of each biosolids application if the biosolids cadmium concentration is greater than or equal to 21 mg/kg. The soil pH must be properly tested and recorded prior to land application operations during which a pH change of one-half unit or more may occur within the zone of incorporation (i.e., use of biosolids containing lime or other alkaline additives at 10% or more of dry solid weight).

3. Management practices.

a. Application rates and requirements. Process design considerations shall include sludge composition, soil characteristics, climate, vegetation, cropping practices, and other pertinent factors in determining application rates. Site specific application rates should be proposed using pertinent biosolids plant available nitrogen (PAN) and crop nutrient needs (agronomic rate listed in Table 10) and the cumulative trace element loading rates (Table 8). Lime amended biosolids shall be applied at rates that are not expected to result in a target soil pH in the plow layer above a pH of 6.5 for soils located in the coastal plain and above a pH of 6.8 in other areas of the state. Agricultural use of treated septage shall be in accordance with these requirements (Table 12). The biosolids application rate, application timing and all other site management practices shall be restricted to the following criteria in accordance with the approved management practices plan including the nutrient management plan that may prescribe more restrictive site management practices than the following criteria:

(1) For infrequent applications, biosolids may be applied such that the total crop needs for nitrogen (Table 10 Agronomic Rate) is not exceeded (in order to minimize the amount of nitrogen that passes below the crop root zone to actually or potentially pollute groundwater), during a one-year crop rotation period including the production and harvesting of two crops in succession within a consecutive 12-month growing season. However, the total application of biosolids shall not exceed a computed maximum loading of 15 dry tons per acre, unless a higher loading can be justified in relation to both the biosolids and the site characteristics, including the biosolids nutrient and dry solids content and the site slopes. No further applications of biosolids shall be allowed for a period of three years from the date that the agronomic rate is achieved for the crop or crops grown in the following 12 months.

(2) The infrequent application rate may be restricted: (i) down to 10% of the maximum cumulative loading rate (Table 8) for cadmium and lead (i.e., 2.0 kilograms per hectare

(kg/ha) for cadmium); or (ii) to account for all sources of nutrients applied to the site, including existing residuals.

(3) The infrequent application rate may also be restricted by the lime content of the biosolids.

(4) For systems designed for frequent application of biosolids (application of the PAN requirement for a normal crop rotation more frequently than once in every three years), the previous year's applied biosolids nitrogen and mineralization rates (Table 11) and soil phosphorus levels, shall be considered in the design and proposed subsequent application rates. Acceptable nutrient management requirements shall be included in the management practices plan for all sites proposed for frequent at-agronomic application rates (9VAC25-32-680).

(5) Frequent below-agronomic application rate involves frequent applications of biosolids on permanent pasture or hay at less than the PAN requirement listed in Table 10. Frequent below-agronomic application rates shall be calculated using one of the following options:

(a) A maximum of 70% of the nitrogen requirement of the permanent pasture or hay crop can be applied on an annual basis. The 70% application rate shall be calculated after accounting for the previous two years' applied biosolids nitrogen mineralization rates.

(b) A maximum of 50% of the nitrogen requirement of the permanent pasture or hay crop can be applied on an annual basis. It is not necessary to account for the previous two years' applied biosolids nitrogen mineralization rates under this option.

For systems designed for frequent below-agronomic rates, surface and groundwater monitoring shall not be required. Soil phosphorus levels shall be considered in the design of proposed subsequent application rates. No application shall be made between September 15 and March 15 on warm-season grasses and alfalfa.

b. Standard slopes and topography. Management practices specifying uniform application of biosolids at approved rates should be established in accordance with standard slopes. Agronomic practices and crop growth on sites with slope of not greater than 7.0% will provide acceptable protection of surface water quality during the active growing season. If biosolids are applied to site slopes greater than 7.0% during the period of November 16 of one year to March 15 of the following year certain best management practices (BMP's) should be utilized (see subdivision 3 c (1) of this subsection). Biosolids should be directly injected into soils on sites exhibiting erosion potential unless other best management practices are utilized to minimize soil erosion and the potential of nonpoint runoff. Biosolids shall not be applied to site slopes exceeding 15%. Biosolids shall be directly injected or incorporated (mixed within the normal plow layer within 48 hours) if: (i) applied on sites with less than 60% uniform residue cover (stalks, vines, stubble, etc.) within any portion of the site; or (ii) applied to soils during periods of time soils may be subject to frequent flooding as defined by soil survey information.

c. Operations.

(1) Field management. The application rate of all application equipment shall be routinely measured as described in an approved sludge management plan and every effort shall be made to ensure uniform application of biosolids within sites in accordance with approved maximum design loading rates. Liquid sludges shall not be applied at rates exceeding 14,000 gallons per acre, per application. Sufficient drying times shall be allowed between subsequent applications. Application vehicles should be suitable for use on agricultural land. Pasture and hay fields should be grazed or clipped to a height of approximately four and six inches, respectively, prior to biosolids application unless the biosolids can be uniformly applied so as not to mat down the vegetative cover so that the site vegetation can be clipped to a height of approximately four inches within one week of the biosolids

application. If application methods do not result in a uniform distribution of biosolids, additional operational methods shall be employed following application such as dragging with a pasture harrow, followed by clipping if required, to achieve a uniform distribution of the applied biosolids.

Surface incorporation may be required on cropland by the department, or the local monitor with approval of the department, to mitigate excessive odors when incorporation is practicable and compatible with a soil conservation plan meeting the standards and specifications of the U.S. Department of Agriculture Natural Resources Conservation Service.

In accordance with the management practices plan, when biosolids are applied to site slopes greater than 7.0% between the period of November 16 of one year, and March 15 of the following year, one of the following practices shall be used to prevent runoff and soil loss:

(a) Biosolids are surface applied or subsurface injected beneath an established living crop such as hay, pasture, or timely planted small grain or cover crop;

(b) Biosolids are surface applied or subsurface injected so that immediately after application the crop residue still provides at least 60% soil surface coverage; or

(c) Biosolids are applied by surface application or subsurface injection and the site is operated in compliance with an existing soil conservation plan approved by the U.S.D.A. Natural Resource Conservation Service and will remain in compliance after any subsequent tillage operation to incorporate the biosolids.

In accordance with the management practices plan if site slopes exceed 5.0% up to 7.0%, biosolids can be applied by surface application or subsurface injection followed by: (i) incorporation within 48 hours of application if crop residue still provides at least 30% soil surface coverage immediately following incorporation, or (ii) ridge tilling or chisel plowing within 48 hours of application; during the period of November 16 to March 15 of the following year. The site should be chisel plowed or ridge tilled predominately along the contour so that uniform parallel ridges of four inches or greater are created that will improve soil roughness and reduce runoff. Consideration should also be given to the use of similar practices on slopes of 5.0% or less when feasible for applications during the late fall and winter.

(2) Restrictions. Biosolids application shall not be made during times when the seasonal high water table of the soil is within 18 inches of the ground surface. Biosolids may only be applied to snow-covered ground if the snow cover does not exceed one inch and the snow and biosolids are immediately incorporated within 24 hours of application. Liquid sludges may not be applied to frozen ground. Dry or dewatered sludges may be applied to frozen ground only if (i) site slopes are 5.0% or less; (ii) a 200-foot vegetative (i.e., at least 60% uniformly covered by stalks or other vegetation) buffer is maintained from surface water courses; and (iii) the entire application site has uniform soil coverage of at least 60% with stalks, vines, stubble, or other vegetation and the site soils are characterized as well drained.

In accordance with the management practices plan, when biosolids are land applied between March 15 and September 1, crop planting following biosolids application should occur within a 30-day period. When biosolids are applied to sites between September 1 and November 16, an agronomically justified crop capable of trapping plant available nitrogen such as small grain shall be planted within 45 days of the application of biosolids or prior to November 16, whichever comes first, or an established cool season grass sod or timely planted small grain crop shall be present. The crop planted should be capable of

germination and significant growth before the onset of winter so the plant is able to use available nitrogen released by the biosolids.

On sites with a high leaching index (greater than 10) as defined by the Department of Conservation and Recreation, an established cool season grass or timely planted small grain crop should be present when biosolids are applied to such sites between November 16 and December 21 in accordance with the nutrient management plan. Biosolids should not be applied any earlier than 30 days prior to spring planting on environmentally sensitive sites in accordance with the nutrient management plan.

d. Buffer zones.

(1) Setback distances. If slopes are greater than 7.0% and biosolids will be applied between November 16 and March 15, setback distances to perennial streams and other surface water bodies shall be doubled. The location of land application of biosolids shall not occur within the following minimum buffer zone requirements:

	Minimum Distances (Feet) to Land Application Area		
Adjacent Features	Surface Application[1]	Incorporation	Winter[2]
Occupied dwellings	200 ft.	200	200
Water supply wells or springs	100 ft.	100	100
Property lines	100 ft.	50	100
Perennial streams and other surface waters except intermittent streams	50 ft.	35	100
Intermittent streams/drainage ditches	25 ft.	25	50
All improved roadways	10 ft.	5	10
Rock outcrops and sinkholes	25 ft.	25	25
Agricultural drainage ditches with slopes equal to or less than 2.0%	10 ft.	5	10

[1]Note: Not plowed or disced to incorporate within 48 hours.

[2]Application occurs on average site slope greater than 7.0% during the time between November 16 of one year and March 15 of the following year.

The stated buffer zones to adjacent property boundaries and drainage ditches constructed for agricultural operations may be reduced by 50% for subsurface application (includes same day incorporation) unless state or federal regulations provide more stringent requirements. Written consent of affected landowners is required to reduce buffer distances from property lines and dwellings. In cases where more than one buffer distance is involved, the most restrictive distance governs. Buffer requirements may be increased or decreased based on either site specific features, such as agricultural drainage features and site slopes, or on biosolids application procedures demonstrating precise placement methods.

(2) Extended buffer setback distances. For applications where surface applied biosolids are not incorporated, the department (or the local monitor with approval of the department) may require as a site-specific permit condition, extended buffer zone setback distances when necessary to protect odor sensitive receptors. When necessary, buffer zone setback distances from odor sensitive receptors may be extended to 400 feet or more and no biosolids shall be applied within such extended buffer zones. In accordance with 9VAC25-

32-100 and 9VAC25-32-490, the board may impose standards and requirements that are more stringent when required to protect public health and the environment, or prevent nuisance conditions from developing, either prior to or during biosolids use operations.

e. Monitoring and testing. Groundwater and surface water and soils monitoring and testing may be required by the department, or the local monitor with approval of the department for any frequent application sites (reach agronomic rate more than once in three years) for which a potential environmental or public health concern is identified by the board in accordance with this regulation (9VAC25-32-400). Groundwater monitoring and testing should not be required for infrequent application of biosolids.

C. Forestland (Silviculture). Silvicultural use includes application of biosolids to commercial timber and fiber production land, as well as federal and state forests. The forestland may be recently cleared and planted, young plantations (two-year-old to five-year-old trees) or established forest stands.

1. Sludge standards. Refer to 9VAC25-32-590 and 9VAC25-32-660 of this Article.

2. Site suitability. Site suitability requirements should conform to subdivision A 2 of this section. The soil pH should be managed at the natural soil pH for the types of trees proposed for growth.

3. Management practices.

a. Application rates. Biosolids application rates shall be in accordance with the management practices plan and information provided by the Virginia Department of Forestry.

b. Operations.

(1) Field management.

(a) High pressure spray shall not be utilized if public activity is occurring within 1,500 feet downwind of the application site. Public access to the site shall be adequately limited or controlled following application (Article 3 (9VAC25-32-490 et seq.) of this part).

(b) The operations should only proceed when the wind velocity is less than or equal to 15 miles per hour. When high pressure spray is used windless conditions are preferred for such operations.

(c) Biosolids application vehicles should have adequate clearance to be suitable for silvicultural field use.

(d) Application scheduling should take into account high rainfall periods and periods of freezing conditions.

(e) Monitoring requirements shall be site specific and may include groundwater, surface water or soils, for frequent application sites.

(2) Buffer zones. Buffer zones should conform to those for agricultural utilization. Refer to Table 2.

D. Reclamation of disturbed land. Biosolids applied at rates exceeding the agronomic rate may reclaim disturbed land in one or more of the following ways: (i) surface or underground mining operations, (ii) the deposition of ore processing wastes, (iii) deposition of dredge spoils or fly ash in construction areas such as roads and borrow pits. Reclamation of disturbed land is within the jurisdiction of the Virginia Department of Mines, Minerals and Energy. That department should be contacted concerning issuance of a permit for these operations. The land reclamation management practices plan should be prepared with the assistance of the Virginia Department of Conservation and Recreation, the Soil Conservation Service and the Virginia Cooperative Extension Service.

1. Sludge standards. Refer to the standards of this article.

2. Site suitability. Site suitability requirements should conform to subdivision A 2 of this section. Exceptions may be considered on a case-by-case basis.

3. Management practices.

a. Application rates. The application rates shall be established in the management practices plan through recommendations provided by appropriate agencies including the Virginia Department of Mines, Minerals and Energy and the appropriate faculty of the Department of Crop and Soil Environmental Sciences of the Virginia Polytechnic Institute and State University.

b. Vegetation selection. The land should be seeded with grass and legumes even when reforested in order to help prevent erosion and utilize available plant nitrogen. The management practices plan should include information on the seeding mixture and a detailed seeding schedule.

c. Operations.

(1) The soil pH should be maintained at 6.0 or above if the cadmium level in the biosolids applied is at or above 21 mg/kg. during the first year after the initial application. Soil samples should be analyzed by a qualified laboratory. The application rate shall be limited by the most restrictive cumulative trace element loading (Table 8).

(2) Surface material should be turned or worked prior to the surface application of liquid biosolids, to minimize potential for runoff, since solids in liquid sludge can clog soil surface pores.

(3) Unless the applied biosolids are determined to be Class A or have been documented as subjected to Class I treatment, crops intended for direct human consumption shall not be grown for a period of three years following the date of the last sludge application unless the crop is tested to verify that the crop is not contaminated. No animals whose products are intended for human consumption may graze the site or obtain feed from the site for a period of six months following the date of the last biosolids application, unless representative samples of the animal products are tested after grazing and prior to marketing to verify that they are not contaminated.

9VAC25-32-570. Distribution and marketing.

A. Exceptional quality. Distribution or marketing provides for the sale or distribution of exceptional quality biosolids or mixtures of Class I treated biosolids with other materials such that the mixture achieves the Class A pathogen control standard. Distribution or marketing of Class I treated biosolids that have been mixed with inert materials may be approved on a case-by-case basis. Inert materials shall not contain pathogens or attract vectors. Use of such mixtures for agricultural purposes should be evaluated through proper testing or research programs designed to access the suitability of the material for such use. Exceptional quality biosolids marketed as fertilizers or soil conditioners must be registered with the Virginia Department of Agriculture and Consumer Services. The permit applicant shall obtain such registration prior to issuance of a permit by the board for residential, agricultural, reclamation or silvicultural use.

1. Because of the high potential for public contact with distributed and marketed sludge or sludge products, only biosolids processed to meet criteria specified for Class I treatment process sequences designed to eliminate or further reduce pathogens (PFRP) shall be sold or given away for application to land. In addition, the biosolids must meet vector attraction reduction requirements, and other quality standards (Table 8) as required for the intended use.

2. Exceptional quality biosolids may be distributed and marketed in either bulk amounts (unpacked) or as a bagged product. For purposes of this regulation, a bulk use quantity of biosolids will be defined as a volume of that sludge product containing 15 dry tons or more of sewage sludge. Application of bulk use quantities of exceptional quality biosolids to home

vegetable gardens shall not exceed an equivalent annual loading rate of approximately one pound dry weight of biosolids per square foot (garden products may constitute a significant portion of a family diet and the amount of applied biosolids cannot be specifically controlled as in agricultural use). Exceptional quality biosolids can ideally be used as soil amendments for horticulture and landscaping purposes such as:

a. Use in potting soil mixes;

b. Use for seed beds, for establishment of grass and other vegetation and for topdressing of existing lawns and landscape vegetation.

3. Only exceptional quality biosolids produced from an approved sludge processing facility can be distributed and marketed. Biosolids sold for use as soil amendments or fertilizers must be registered with the Virginia Department of Agriculture and Consumer Services. Approved sludge processing facilities are those facilities constructed and operated in compliance with required permits. Approved methods of Class I processing for biosolids for distribution or marketing include, but may not be limited to, the methods described in this article.

B. Permits. Any owner who proposes to distribute or market exceptional quality biosolids or materials derived from Class I biosolids (distributor), including soil additives or compost in bulk use quantities, shall be required to obtain a written approval issued by the board. The derived material shall achieve acceptable vector attraction reduction standards and contain acceptable levels of solids and pollutant concentrations in accordance with this regulation. A permit for distribution or marketing is not required provided that an operation permit has been issued for land application of the processed material as part of either an approved sludge management plan (12VAC5-585-140 H) or an approved management practices plan (12VAC5-585-240). Approval of the distribution of bulk use quantities of exceptional quality biosolids is not required for a holder of a valid permit that authorizes distribution in bulk use quantities. All requests for bulk use approval shall be directed initially to the appropriate regional office of the department. The Virginia Department of Health, the Virginia Department of Agriculture and Consumer Services and the Virginia Department of Conservation and Recreation may participate in the review of such permits involving land application. A permit for distribution of bulk use quantities of biosolids will require the submittal and review of an acceptable distribution information sheet as described in this regulation. The approval of a distribution information sheet for bulk use quantities of exceptional quality biosolids will be issued in the form of a letter of approval of such use by the department's regional offices.

The permittee shall maintain records on the sludge processing facility operation, maintenance and laboratory testing. Records shall be maintained for all samples to include the following: (i) the date and time of sampling, (ii) the sampling methods used, (iii) the date analyses were performed, (iv) the identity of the individual obtaining each sample and the analysts, and (v) the results of all required analyses and measurements. The records shall include all data and calculations used and shall be available to the department for inspections at reasonable times. All required records shall be kept for a minimum of five years.

C. Information furnished to all users. Biosolids distributed for public use in Virginia shall have proper identification of the producer and a description of the product including an acceptable statement of quality based on representative analytical testing. This information shall be provided by the owner in either brochures for bulk distribution or by proper labeling on bagged material. Labeling requirements should be addressed in a management plan or in the operation and maintenance manual for the processing facility.

Information provided to users of marketed or distributed biosolids should note the following: (i) the nutrient content, (ii) the acceptable land application rates, (iii) the CCE value, the pH, (iv) to follow the stated directions for use, and (v) that for any uses not specified the user should contact the distributor at a listed address or telecommunications number.

D. Distribution information. Distribution information should be maintained by the sludge processing facility owner or holder of a permit for distribution or marketing (distributor) and completed by any single biosolids distributor or user receiving bulk use quantities of marketed or distributed biosolids of more than 50 cubic yards during a period of 24 consecutive hours or less. Copies of this information should be maintained by the sludge processing facility or distributor and be made available upon request by the department. These records should include the following information, as a minimum:

1. Date;

2. Name, address, and phone number of user;

3. Amount of exceptional quality biosolids obtained;

4. Location and property owner where biosolids are being used;

5. Size of area where biosolids are spread;

6. Proximity of site to closest river or water supply source; and

7. Description of site uses.

Only the information listed in subdivisions 1 through 4 of this subsection shall be necessary for submission by a biosolids distributor.

The department reserves the right to prohibit the distribution of bulk use quantities of biosolids when it appears that such distribution is being accomplished in such a manner so as to circumvent the foregoing requirements.

E. Other uses. The use of a nonhazardous sewage sludge product, such as incinerator ash, will be evaluated on a case-by-case basis as provided for by this regulation.

9VAC25-32-580. Sludge disposal.

Permits for sludge disposal practices will be issued through other state and federal regulations and are not subject to this regulation. Such practices may include:

1. Incineration. Emission quality control requirements will be established in accordance with state and federal regulations. The generated ash is required to be properly managed in accordance with local, state and federal regulations. Applicable regulatory requirements in addition to this regulation may involve permits issued by the appropriate state and federal agencies. Buffer separation requirements will be established on a site specific basis in accordance with the applicable regulations.

2. Landfill. Management of stabilized sludge suitable for topdressing of completed landfill areas will be subject to state and federal regulations. Codisposal of sludge within municipal solid waste landfills is subject to state and federal regulation. Codisposal requirements have included:

a. Stabilization treatment of sludges.

b. Dewatering of sludges by methods designed to achieve a suspended solids level of 20% or more, or a treated sludge sample passes the paint filter test standards for free water.

c. A nonhazardous declaration from the owner.

3. Lagooning (surface disposal). When these facilities are closed by burying the wastes in place, they may be considered to be surface disposal sites. A closure plan shall be provided to the appropriate agencies.

4. Dedicated sites. The primary purpose of surface disposal sites is to allow frequent long-term sludge application at a single location at amounts that exceed agronomic rates but not for the purpose of reclaiming disturbed soils. Sludge disposal operations on dedicated sites will be subject to local, state and federal regulations including site management practices. Permits will

be issued through state and federal regulations to protect public health and the quality of state waters. Any dedicated site may be subject to local zoning requirements and may be recorded as a dedicated site in the appropriate circuit court deed book (Table A-1).

9VAC25-32-590. Standards for agricultural use.

A. Standards for agricultural use of sewage sludge as biosolids have been established such that the concentrations of sludge contaminants released to the environment will not exceed the human health and environmental quality criterion for the relevant exposure pathways.

B. Agricultural use standards involve regulation of the following:

1. Sludge characteristics as determined from sampling and testing as well as control of sewer use.

2. Sludge treatment (stabilization) in relation to process design and operational controls (Table 3).

3. Site management in relation to land application of biosolids for agronomic use, including (i) operational methods, (ii) access restrictions, and (iii) buffer restrictions.

4. Crop management in relation to land application of biosolids and crop rotation, including (i) application rate determinations, and (ii) crop use restrictions.

5. Standards for biosolids characteristics including (i) nutrient concentrations, (ii) heavy metal concentrations, (iii) organic chemical concentrations, and (iv) lime content/pH characteristics.

6. Standards for processing biosolids involving treatment process sequences for (i) pathogen reduction treatment and (ii) reduction of organic matter to minimize odors and reduce vector attraction.

9VAC25-32-600. Biosolids characteristics; nutrients; trace elements; organic chemicals.

A. The primary agronomic value of biosolids, the nutrient content, shall be established prior to agricultural use. The applied nitrogen and phosphorous content of biosolids shall be limited to amounts established to support crop growth. Nitrate nitrogen developed as a result of biosolids application shall be controlled in order not to accumulate in groundwater as a pollutant. Thus, the amount of biosolids applied to land shall be restricted based on the nitrogen requirements of the crop grown on the amended site immediately following application (agronomic rate). In addition, soil erosion and site runoff should not result in phosphorous pollution of surface waters as a result of surface application of biosolids. The results of approved groundwater monitoring programs may be utilized to verify frequent application rates.

B. The heavy metal content of biosolids may restrict the application rate below the agronomic rate. However, municipal biosolids would not normally contain excessive heavy metal concentrations unless a significant amount of a high metal content wastewater without pretreatment is routinely discharged into the municipal system. If a biosolid contains heavy metal concentrations below the ceiling values listed in Table 7, or is processed and evaluated as exceptional quality biosolids, the application rate for agricultural use shall be unrestricted up to the agronomic rate for infrequent applications. The accumulated amount of trace elements can restrict the application rate for frequent applications of biosolids.

C. Municipal biosolids can contain synthetic organic chemicals from industrial wastewater contributions and disposal of household chemicals and pesticides. Municipal biosolids typically contain very low levels of these compounds; however, biosolids may be required to be tested for certain toxic organic compounds prior to agricultural use (Table 12). If performed and validated, these test results shall be utilized to evaluate the maximum allowable annual loading rate for the tested biosolids. If analytical test results verify that biosolids contains levels of organic chemicals exceeding concentration limits incorporated in federal regulations or standards, appropriate restrictions shall be imposed for agricultural use of that biosolid.

9VAC25-32-610. Biosolids treatment.

A. Stabilization. Biosolids treatment processes are primarily designed to increase the solids content of the biosolids by separation and removal of liquid and are designed to stabilize the solid fraction through biochemical conversions that inactivate pathogens and reduce vector attraction characteristics and the potential for odor production. Such treatment should be designed to improve the characteristics of the biosolids for a particular use/disposal practice, increase the economic viability of using a particular practice and reduce the potential for public health, environmental and nuisance problems.

B. Class I treatment. Class I treatment may be achieved by process sequences to further reduce (PFRP) or eliminate pathogens, i.e., Class A pathogen control. Class I treatment methods reduce all pathogens potentially contained in biosolids or septage to a level below specified limits (Table 3). Class A microbiological standards and an acceptable solids content shall be achieved at the time biosolids are used or prepared for distribution or marketing in accordance with the appropriate management practices specified in this regulation. Class I treatment processes should include one or more of the following operations:

1. Heat treatment. The temperature of the biosolids that is used or disposed is maintained at a specific value for a specified period of time:

a. When the percent solids of the biosolids is 7.0% or higher, the temperature of the biosolids shall be 50°C or higher; the time period shall be 20 minutes or longer; and the temperature and time period shall be determined using equation B-1, except when small particles of biosolids are heated by either warmed gases or an immiscible liquid.

Equation B-1: D1 = (131,700,000)/ 10(exp 0.1400(t))

Where,

D1 = time in days that biosolids temperature is t or more

t = Biosolids temperature in degrees Celsius (°C).

exp = exponent or power that Base 10 is raised to.

b. When the percent solids of the biosolids is 7.0% or higher and small particles of biosolids are heated by either warmed gases or an immiscible liquid, the temperature of the biosolids shall be 50°C or higher; the time period shall be 15 seconds or longer; and the temperature and time period shall be determined using equation B-1.

c. When the percent solids of the biosolids is less than 7.0% and the time period is at least 15 seconds, but less than 30 minutes, the temperature and time period shall be determined using equation B-1.

d. When the percent solids of the biosolids is less than 7.0% the temperature of the biosolids is 50°C or higher; and time period is 30 minutes or longer, the temperature and time period shall be determined using equation B-2.

Equation B-2: D2 = (50,070,000)/ 10(exp 0.1400(t))

Where,

D2 = time in days that biosolids temperature is t or more

t = Biosolids temperature in degrees Celsius (°C).

e. The temperature of the biosolids is maintained at 70°C or higher for a time period of 30 minutes or longer (Pasteurization).

2. Heat drying. A process wherein dewatered biosolids cake is dried by direct or indirect contact with hot gases and the biosolids moisture content is reduced to 10% or lower. Direct

drying is achieved when the biosolids particles reach temperatures of 80°C or higher. Indirect drying may involve the temperature of the gas stream measured at the point where the gas stream leaves the dryer. Indirect drying may be achieved when the wetbulb temperature of the gas stream leaving the dryer is in excess of 80°C or the biosolids particles reach temperatures of 80°C or higher.

3. Thermophilic composting. A process using the within-vessel composting method that maintains a treated biosolids temperature of 55°C or greater for three days. A process using the static aerated pile composting method that maintains a treated biosolids temperature of 55°C or greater for three days. A process using the windrow composting method that maintains a treated biosolids temperature at 55°C or greater for at least 15 days during the composting period, and during the indicated high temperature period, there is a minimum of five turnings of the windrow. Operating temperatures are measured at the depth of 30 cm from the surface of the compost mixture. As thermophilic composting processes are less efficient in destroying pathogens than other disinfection processes an additional storage of processed compost up to 30 days or more may be necessary to achieve an adequate level of vector attraction reduction as verified by testing prior to final disposition (Table 3).

4. Thermophilic aerobic digestion. Liquid biosolids consisting of 50% or more waste biological liquid by dry weight, is agitated with air or oxygen to maintain one mg/l or more dissolved oxygen at mid-depth, during a mean cell residence time of 10 days or more at 55°C or more.

5. Alkaline (PFRP) stabilization. Thorough blending of an alkaline additive to digested biosolids in sufficient quantities to produce a mixture pH of 12 or more for a period of 72 hours or more with one of the following: (i) mixture temperature of 55°C for a minimum period of 12 hours, or (ii) mixture temperature of 70°C or more for a minimum period of 30 minutes or more. Such treatment may be followed by storage for an acceptable period of time to dry the mixture to an adequate dry solids content. Alkaline addition to undigested biosolids will be considered on a case-by-case basis with extensive monitoring used to verify the level of pathogen control achieved.

6. Chlorine oxidation. A process of introducing high doses of chlorine (1,000 mg/l to 3,000 mg/l) into the biosolids stream under low pressure (30 psig or more) producing a biosolids pH of four or less in order to achieve Class A microbiological standards (Table 3), followed by acceptable drying to achieve a suspended solids content of 30% or more.

7. Alternative equivalent stabilization processes. The process operating parameters for alternative equivalent stabilization processes (PFRP) should be addressed, case-by-case, based on department evaluation of the results of adequate monitoring and testing programs (Table 3), with input from the USEPA staff, i.e., the Pathogen Equivalency Committee.

C. Class II treatment. Class II treatment may be achieved by process sequences to significantly reduce pathogens (PSRP), i.e., Class B pathogen control. Class II treatment methods reduce bacteria (fecal coliform, fecal streptococci, enterococci) found in the treated biosolids or septage 1 logs or more (32 fold) below the densities found in the raw biosolids to achieve a density of (6.3 log10 per gram of total solids or less (Table 3)). Class B microbiological standards shall be achieved at the time the biosolids are removed and transported for land application in accordance with the management practices specified. Class II treatment processes may include one or more of the following operations:

1. Anaerobic digestion. A process whereby biosolids are maintained in an anaerobic environment for a mean cell residences period ranging from 60 days at 20°C to 15 days at 35°C.

2. Aerobic digestion. A process of agitating biosolids with air or oxygen to maintain aerobic conditions for a mean cell residence period ranging from 60 days at 15°C to 40 days at 20°C.

3. Low-temperature composting. A process using the within-vessel, aerated static pile or windrow composting methods, whereby the temperature of treated biosolids is maintained at a

minimum of 40°C for five days. For four hours during this period the operating temperature of the treated biosolids exceeds 55°C. Additional storage of processed compost for 30 days or more may be necessary to provide the necessary level of vector attraction reduction prior to final disposition.

4. Alkaline (PSRP) stabilization. A process where sufficient alkaline additive is blended with unstabilized biosolids to produce a minimum mixture pH of 12 after two hours of contact and a pH of 11.5 or more for 22 additional hours or more, with storage for a period sufficient to produce an acceptable dry solids content as necessary for the method of final disposition.

5. Air drying. Biosolids treated by methods similar to those listed above, but not meeting Class II treatment standards are dried on sand beds or in basins with underdrains for a minimum period of three months, during which time the ambient daily temperature exceeds 0°C and dried biosolids are produced.

D. Additional treatment methods to provide disinfection of treated biosolids. Pathogen treatment processes may be enhanced by providing additional treatment methods to eliminate parasitic worms and ova (EH process sequence). Any of the processes listed below, if added to stabilization processes described previously, will further lower pathogens. Because these processes when used alone do not reduce nuisance odors and the attraction of vectors, they are considered to be supplementary to typical stabilization and pathogen treatment processes.

1. Beta ray irradiation. A process involving the irradiation of biosolids with beta rays at dosages of at least one megarad at 20°C.

2. Gamma ray irradiation. A process involving the irradiation of biosolids with gamma rays from certain isotopes, such as 60Cobalt and 137Cesium, at dosages of at least 1.0 megarad at 20°C.

E. Vector attraction reduction parameters. One of the appropriate vector attraction reduction requirements shall be achieved and Class A or B pathogen control obtained when bulk biosolids are applied to agricultural land, forest, a public contact site, reclamation site, lawn or home gardens. One of the appropriate vector attraction reduction requirements shall be met when Class A biosolids are sold or given away in a bag or other container for application to the land. The following operational methods will achieve the necessary vector attraction reduction requirements:

1. The mass of volatile solids in the biosolids shall be reduced by a minimum of 38% (see calculation procedures in "Environmental Regulations and Technology-Control of Pathogens and Vector Attraction in Biosolids," EPA-625/R-92/013, 1992, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268).

2. When the 38% volatile solids reduction cannot be met for an anaerobically digested biosolid, vector attraction reduction can be demonstrated by digesting a portion of the originally digested biosolids anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30°C and 37°C. When at the end of the 40 days, the volatile solids in the biosolids at the beginning of that period is reduced by less than 17%, adequate vector attraction reduction is considered demonstrated for the originally digested biosolids.

3. When the 38% volatile solids reduction requirement cannot be met for an aerobically digested biosolid, vector attraction reduction can be demonstrated by digesting a portion of the originally digested biosolids that has a percent solids of 2.0% or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20°C. When at the end of the 30 days, the volatile solids in the biosolids at the beginning of that period is reduced by less than 15%, adequate vector attraction reduction is considered demonstrated for the originally digested biosolids.

4. The specific oxygen uptake rate (SOUR) for biosolids treated in a Class II or better aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20°C.

5. Biosolids shall be treated in a Class II or better aerobic process for 14 days or longer. During that time, the temperature of the biosolids shall be higher than 40°C and the average temperature of the biosolids shall be higher than 45°C.

6. The pH of treated biosolids shall be raised to 12 or higher by alkaline addition and, without the addition of more alkaline material, shall remain at 12 or higher for two hours and then at 11.5 or higher for an additional 22 hours. Alkaline stabilization of untreated biosolids shall be evaluated on a case-by-case basis.

7. The percent solids of treated biosolids that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75% based on the moisture content and total solids prior to mixing with other materials.

8. The percent solids of treated biosolids that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90% based on the moisture content and total solids prior to mixing with other materials.

9. For biosolids that are surface applied and incorporated, or injected, below the surface of the land:

a. No significant amount of the biosolids shall be present on the land surface within one hour after the biosolids are injected.

b. When the biosolids that are injected below the surface of the land are Class A with respect to pathogens, the biosolids shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process.

c. Biosolids applied to the land surface shall be incorporated into the soil within six hours after application to or placement on the land.

d. When biosolids that are incorporated into the soil are Class A with respect to pathogens, the biosolids shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process.

10. The pH of untreated domestic septage applied to land shall be raised to 12 or higher by alkaline addition and, without the addition of more alkaline material, shall remain at 12 or higher for 30 minutes prior to application.

9VAC25-32-620. Site access time restrictions.

A. Unrestricted access (UA). Biosolids that have undergone Class I treatment to achieve Class A pathogen control may be applied or incorporated into the soil of agricultural lands and immediate public access is permitted. A waiting period is required up to 30 days following application (to allow adhering biosolids to be washed from the foliar portion of the plants by precipitation). This waiting period is required before (i) crops are harvested for human consumption, or (ii) domestic animals are allowed to graze on the site.

B. Restricted access (RA). Following application or incorporation of biosolids that have undergone Class II treatment to achieve Class B pathogen control public access and crop management shall be restricted as follows: (i) access to any site with a high potential for contact with the ground surface (public use) by the general public shall be controlled for a minimum time period of one year, (ii) access to agricultural sites and other sites with a low potential for public exposure shall be controlled for 30 days, (iii) food crops with harvested parts that touch the biosolids/soil mixture and are not totally above the land surface shall not be harvested for 14 months, (iv) food crops with harvested parts below the surface of the land shall not be harvested for 20 months following application, when the biosolids remain on the land surface for four months or longer prior to incorporation into the soil, (v)

food crops with subsurface harvested parts shall not be harvested for 38 months following application, when the biosolids remain on the land surface less than four months prior to incorporation, (vi) feeding of harvested crops to animals shall not take place for a total of one month following surface application (two months for lactating dairy livestock), (vii) grazing by animals whose products will or will not be consumed by humans is prevented for at least 30 days (60 days for lactating dairy livestock), and (viii) harvesting turf grass for placement on land with a high potential for public exposure or a lawn is prevented for 12 months.

C. Modified Access (MA). If a biosolids processing sequence is used to treat PSRP or PSLP biosolids that eliminates or inactivates helminth eggs (EH), public use access restrictions are reduced to six and eight months respectively, which shall include two summer months. A summary listing of access restrictions is presented in Table 9.

9VAC25-32-630. Biosolids management for nitrogen loading.

A. Crop uptake guidelines. 9VAC25-32-560 B 3 states that application rates shall be approved by the board and that nitrogenous substances are often the limiting factoring determining these application rates. The applicant is responsible for providing site specific biosolids loading rates on a field-by-field basis. In cases where nitrogen is the rate limiting constituent, such rates may be justified by determining the predominant soil type in a field and then correlating the appropriate soil productivity group and nitrogen requirement for the proposed crop. Soil test recommendations developed through the Virginia Polytechnic Institute and State University or the Virginia Water Conservation, Department of Conservation and Recreation may be used for such purposes. Table 10 summarizes the correlation between nitrogen requirement and productivity class for several crops grown and harvested in Virginia. The applicant may also justify site-specific loading rates by documenting historic crop yield records (average of three highest yields in five years of record) or by written verifications from the Virginia Polytechnic Institute and State University, the Cooperative Extension Service or Department of Conservation and Recreation Nutrient Management Specialist. Written verification shall accompany a request for higher yield goals than those posted in Table 10.

B. Application rate calculations. For biosolids application, a nitrogen balance must be evaluated to determine the acceptable loading rate. For frequent biosolids application, the evaluation will require an assessment of biosolids mineralization rates for organic nitrogen present in the biosolids for the year it is applied as well as residual organic nitrogen that will be mineralized from previous years' biosolids application. Table 11 summarizes acceptable organic nitrogen mineralization rates and ammonia volatilization rates for various types of biosolids and should be used in computing acceptable nitrogen loading rates unless information is provided to justify other rates. The nitrogen application rate on sites registered in the conservation reserve plan should be established in accordance with those land use restrictions. The application rates for treated septage shall be developed using equation 1 contained in Table 12-B.

9VAC25-32-640. Maximum application rates for trace elements.

The maximum cumulative application of cadmium and other biosolids borne trace elements to soils used for crop production is summarized in Table 8. Parameters other than those listed in Tables 8, 9 and 14 can be used to evaluate the application rate of biosolids in accordance with current EPA technical regulations. Exceptional quality biosolids applied to lawns or home gardens in residential areas shall be of such quality so as to conform with the pollutant levels specified in Table 7-B.

9VAC25-32-650. Maximum application rates for high lime biosolids.

Application rates for alkaline stabilized biosolids may be restricted in accordance with the soil pH buffer capacity, as determined by commercial and state soil testing laboratories. The application of biosolids will affect soil pH. Unless properly controlled, high rates of calcium carbonate equivalence (i.e., CCE, which is a factor that relates the liming potential of biosolids to calcium carbonate limestone) application can have an adverse effect on crop productivity by increasing the soil pH beyond the range optimum for maximum crop production. Agricultural use of biosolids with high CCE

content should be controlled to correspond with current agricultural liming practices. Calcium carbonate equivalent loadings should not exceed rates designed to attain soil pH values in the plow layer above 6.5 for soils located in the coastal plain and above 6.8 for soils located in other areas of the state.

9VAC25-32-660. Maximum application rates for biosolids.

If soils exhibit very high soil test phosphorus of 55 or more parts per million phosphorus (Mehlich I analytical test procedure or equivalent procedure approved by the Department of Conservation and Recreation), the maximum application rates for phosphorus contained in biosolids together with phosphorus contained in other applied nutrient sources to the site and all applicable phosphorus management practices shall be consistent with the nutrient management plan.

TABLE 7
A. RECOMMENDED CEILING LIMITS FOR THE TRACE ELEMENT CONTENT OF BIOSOLIDS ACCEPTABLE FOR LAND APPLICATION

TRACE ELEMENT	CONCENTRATION IN MILLIGRAMS PER KILOGRAMS (DRY WEIGHT)
Arsenic	75
Cadmium	85
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

B. MAXIMUM MONTHLY AVERAGE TRACE ELEMENT CONCENTRATIONS FOR APPLICATION OF EXCEPTIONAL QUALITY BIOSOLIDS TO LAWNS OR HOME GARDENS IN RESIDENTIAL LOCATIONS

TRACE ELEMENT	CONCENTRATION IN MILLIGRAMS PER KILOGRAMS (DRY WEIGHT)
Arsenic [(1)]	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Molybdenum [(1)]	
Nickel	420
Selenium	100
Zinc	2800
Note: [(1)]The monthly average concentration is currently under study by USEPA.	

TABLE 8
MAXIMUM CUMULATIVE APPLICATION OF BIOSOLIDS TRACE ELEMENTS THAT CAN BE APPLIED TO SOILS USED FOR CROP PRODUCTION[1]

TRACE ELEMENT	Kg/ha	(lbs/AC)
Arsenic [2]	41	(36)
Cadmium	39	(35)
Copper	1,500	(1,340)
Lead	300	(270)
Mercury	17	(16)
Molybdenum[2]		
Nickel	420	(375)
Selenium	100	(89)
Zinc	2,800	(2,500)

Notes: [1]Such total applications to be made on soils with the biosolids/soil mixture pH adjusted to 6.0 or greater if the biosolids cadmium content is greater than or equal to 21 mg/kg.

The maximum cumulative application rate is limited for all ranges of cation exchange capacity due to soil background pH in Virginia of less than 6.5 and lack of regulatory controls of soil pH adjustment after biosolids application ceases.

[2]The maximum cumulative application is currently under study by USEPA.

TABLE 9
COMPARISONS OF TIME RESTRICTIONS FOLLOWING COMPLETION OF BIOSOLIDS APPLICATION ASSOCIATED WITH CLASS II TREATMENT LEVELS

Type of Application	Surface[1]	Incorporated[2]
Control of Access for Public Use[3]	12 Months	12 Months
Time lapse required before above ground food crops with harvested parts that touch the biosolids/soil mixture can be harvested.	14 Months	14 Months
Time lapse before food crops with harvested parts below the land surface can be harvested	20 Months	38 Months
Harvesting food crops, feed crops and fiber crops	1 Month	1 Month
Grazing and feeding harvested crops to animals whose products are consumed by humans[4]	1 Month	1 Month
Grazing of farm animals whose products are not consumed by humans	1 Month	1 Month
Harvesting turf for placement on land with a high potential for public exposure or a lawn[5]	12 Months	12 Months

Notes: [1]Remains on land surface for four months or longer prior to incorporation.

[2]Remains on land surface for less than four months prior to incorporation.

[3]Public access to agricultural sites and other sites with a low potential for direct contact with the ground surface shall be controlled for 30 days.

[4]The restriction for lactating dairy cows is two months.

[5]This time restriction must be met unless otherwise specified by the permitting authority.

TABLE 10
NITROGEN REQUIREMENTS FOR AGRONOMIC RATES

A. RECOMMENDED PLANT AVAILABLE NITROGEN (PAN) APPLICATION RATES IN POUNDS OF NITROGEN (N) PER ACRE FOR VARIOUS NONIRRIGATED CROPS GROWN ON SOILS RECEIVING INFREQUENT BIOSOLIDS APPLICATIONS[1]

	Soil Productivity Group								
	I		II		III		IV		V
	A	B	A	B	A	B	A	B	
Crop	lbs N/acre								
Corn grain	180	170	160	150	140	130	120	100	80
Corn silage	200	185	175	165	155	145	130	110	90
Grain sorghum	140	130	120	110	100	90	90		80
Full season Soybeans[2]	160 to 180	150 to 170	140 to 160	130 to 150	120 to 140	110 to 130	100 to 120	85 to 105	65 to 85
Canola[3]	100		90		80		60		60
Wheat	100		90		80		60		60
Barley	90		80		80		60		60
Rye	75		75		75		75		75
Oats	80		80		80		60		60
Tallgrass hay[4]	250		250		200		160		160
Bermudagrass hay	240 - 300		240 - 300		210 - 260		210 - 260		210 - 260
Pasture Fescue/Orchardgrass[5]	120		120		100		80		80
Bermudagrass pasture[7]	175 - 225		175 - 225		120 - 180		120 - 180		120 - 180
Alfalfa[7]	300		300		210		150		150
Sudangrass, sudan-sorghum, millet[6]	70		70		70		70		70
Stockpiled tall fescue (summer application by August 15)	60 - 100		60 - 100		50 - 80		50 - 80		50 -80

Notes: [1]For proposed use of crops or PAN rates (lbs/A) not included in the following tables, adequate yield and PAN Data are to be submitted in accordance with Article 4 (9VAC25-32-670 et seq.) of this part.

[2]For doublecrop or late beans planted after 6/21 (of any year) allowable PAN rates are the lowest of the listed values, as rounded to nearest factor of 10.

[3]For fall application rate may sidedress up to 60 lbs fertilizer N/acre in late February before spring growth begins.

[4]Apply listed PAN rate when application occurs between 3/1 and 9/30 in any year and apply only one-half of listed PAN rates if application will occur between 10/1 of any year and 2/28 of the following year, with remaining PAN applied after 3/1 of that following year.

[5]For frequent applications apply 60 lbs PAN/acre per year. Following infrequent application rate, subsequent frequent applications should be adjusted on a case-by-case basis, accounting for residual from other wastes and crops (Part IV, Table A-2).

[6]Sudangrass, sudan-sorghum and pearl millet may receive a PAN rate of 120 lbs/A if the application occurs between 3/1 and 6/1 of any year and two cuttings are to be made, weather permitting. For Foxtail or German Millet, cut only once, application will be limited to a PAN rate of 70 LBS/A.

[7]From 7/1 through 9/14, applications to Bermuda grass hay or alfalfa shall only be applied at 50% of the listed rate

B. ESTIMATED YIELDS IN BUSHELS (bu) OR TONS (T) PER ACRE (A) OF VARIOUS NONIRRIGATED CROPS FOR IDENTIFIED SOIL PRODUCTIVITY GROUPS

Crop	I		II		III		IV		V
	A	B	A	B	A	B	A	B	
Corn Grain (bu/A) Corn Silage (T/A)	180 25.4	170 24.4	160 23.4	150 22.5	140 21.5	130 20.5	120 19.5	100 17.5	80 15.6
Grain Sorghum (bu/A)	140	130	120	110	100	90	90		80
Soybeans (bu/A)									
--Early season	50	45	40		35		25		20
--Late season[8]	40	34	34	30	25		18		15
Canola[9]	UNDETERMINED AT THIS TIME								
Wheat (bu/A)									
--Standard	64		56		48		40		24
--Intensive	80		70		60		50		30
Barley (bu/A)									
--Standard	110		70		60		50		30
--Intensive	115		88		75		63		38
Oats	80		80		80		60		60
Tallgrass hay (T/A)	>4.0		3.5 - 4.0	3.5 - 4.0	3.0 -3.5		<3.0		<3.0
Bermudagrass hay (T/A)	>6.0		5.0 - 6.0		4.0 -5.0		3.0 - 4.0		<3.0
Alfalfa (T/A)	>6.0		4.0 - 6.0		<4.0		<4.0		<4.0

Notes: [8]Late season beans would be planted on or after 6/21 of that year.
[9]Sufficient yield data not currently available.

C. RESIDUAL PLANT AVAILABLE NITROGEN (PAN) REMAINING FROM GROWTH OF VARIOUS LEGUMES DURING THE PREVIOUS YEAR[10]

Crop	%Stand	Yield Description	Residual Pan (lbs/A)
Alfalfa	50-75	Good (>4T/A)	90
	25-49	Fair (3-4T/A)	70
	<25	Poor (<3T/A)	50
Red Clover	>50	Good (>3T/A)	80
	25-49	Fair (2-3T/A)	60
	<25	Poor (<2T/A)	40
Hairy Vetch	80-100	Good	100
	50-79	Fair	75
	<50	Poor	50
Peanuts			45
Soybeans			20[11]

Notes: [10]The residual PAN values must be subtracted from the PAN values listed in Table A of this section to determine biosolids application rates following growth of legume crops the previous year.
[11]Where yield data is available utilize 0.5 pounds per bushel.

TABLE 11
A. ESTIMATED NITROGEN MINERALIZATION RATES FOR BIOSOLIDS

	Application Year[1]			
Biosolids Type	0-1	1-2	2-3	3-4
Lime Stabilized	0.30	0.10	0.10	0.05
Aerobic digestion	0.30	0.10	0.10	0.05
Anaerobic digestion	0.30	0.10	0.10	0.05
Composted[2]	0.10	0.05	0.03	0.00

Notes: [1]To determine nitrogen available from previous biosolids applications, multiply the initial organic nitrogen analysis by the appropriate mineralization factor.
[2]Total organic nitrogen content of 2.0% or less and no significant ammonia nitrogen.

B. ESTIMATED BIOSOLIDS AMMONIA NITROGEN AVAILABILITY FACTORS BASED ON EXPECTED VIOLATILIZATION RATES FOR BIOSOLIDS

	Availability Factor[1]	
Method of Application	Biosolids pH Less than 10	Biosolids pH Greater than 10
Injection below surface	1.0	1.0
Surface application with/		
--Incorporation within 24 hours	0.85	0.75
--Incorporation within 1-7 days	0.70	0.50
--Incorporation after 7 days	0.50	0.25

[1]To determine the plant-available biosolids ammonium nitrogen in the soil, multiply the biosolids ammonium nitrogen concentration or total weight applied by the appropriate availability factor.

TABLE 12
A. ORGANIC CHEMICAL TESTING THAT MAY BE REQUIRED TO IDENTIFY AN EXCEPTIONAL QUALITY BIOSOLIDS

Organic Chemicals
Aldrin/dieldrin (total)
Benzo (a) pyrene
Chlordane
DDT/DDE/DDD (total) (1)
Dimethyl nitrosamine
Heptachlor
Hexachlorobenzene
Hexachlorobutadiene
Lindane
Polychlorinated biphenols
Toxaphene
Trichloroethylene
(1)Note: DDT 2,2--Bis (chlorophenyl)--1,1,1--Trichloroethane
DDE 1,1--Bis (chlorophenyl)--2,2--Dichloroethane
DDD 1,1--Bis (chlorophenyl)--2,2--Dichloroethane

B. THE RECOMMENDED APPLICATION RATE FOR DOMESTIC SEPTAGE APPLIED TO AGRICULTURAL LAND, FOREST, OR A RECLAMATION SITE SHALL NOT EXCEED THE ANNUAL APPLICATION RATE CALCULATED USING THE FOLLOWING EQUATION:

AAR = N/(0.0026)

Where:

AAR = Annual application rate in gallons per acre per 365-day period.

N = Amount of nitrogen in pounds per acre per 305-day period needed by the crop or vegetation grown on the land.

Article 4
Permit Application Information for Biosolids Use

9VAC25-32-670. Minimum information required for a management practices plan utilizing land application.

A. General information.

1. Legal Name and Address: The legal name of the owner making application for a permit is to appear on the title page or in the opening paragraph or both. Both the mailing and physical address should be included.

2. Owner Contact: The name, title, address, and telephone number of the individual to be contacted regarding this application should be furnished.

3. A general description of the proposed plan including name and location of generators and owners involved and copies of agreements developed, biosolids quality, biosolids treatment and handling processes, means of biosolids transport or conveyance, location and volume of storage proposed, general location of sites proposed for application and methods of biosolids application proposed. A description of temporary storage methods should be provided.

4. Written permission of landowners and farmers on a form approved by the board and pertinent lease agreements as may be necessary for operation of the treatment works.

5. Methods for notification of local government and obtaining compliance with local government zoning and applicable ordinances.

6. A copy of a letter of approval of the nutrient management plan for the operation from the Department of Conservation and Recreation if required in 9VAC25-32-680 A 3.

B. Design information.

1. Biosolids characterization.

a. Amounts and volumes to be handled.

b. Biosolids laboratory analytical data of a representative number of samples of biosolids in accordance with the guideline specified in accordance with Tables 2 and 3. Statement that the biosolids is nonhazardous, documentation statement for treatment and quality and description of how treated biosolids meets other standards in accordance with this regulation.

2. Plans and specifications for storage facilities of all biosolids to be handled, including routine and emergency storage, shall be submitted for the issuance of a certificate to construct and a certificate to operate in accordance with the Sewage Collection and Treatment Regulations (9VAC25-790) and shall depict the following information:

a. Site layout on a recent 7.5 minute topographic quadrangle or other appropriate scaled map with the following information.

(1) Location of any required soil, geologic and hydrologic test holes or borings will be submitted.

(2) Location of the following field features within 0.25 miles of the site boundary (indicate on map) with the approximate distances from the site boundary.

(a) Water wells (operating or abandoned).

(b) Surface waters.

(c) Springs.

(d) Public water supplies.

(e) Sinkholes.

(f) Underground and/or surface mines.

(g) Mine pool (or other) surface water discharge points.

(h) Mining spoil piles and mine dumps.

(i) Quarries.

(j) Sand and gravel pits.

(k) Gas and oil wells.

(l) Diversion ditches.

(m) Occupied dwellings, including industrial and commercial establishments.

(n) Landfills - dumps.

(o) Other unlined impoundments.

(p) Septic tanks and drainfields.

(q) Injection wells.

b. Topographic map (10-foot contour preferred) of sufficient detail to clearly show the following information:

(1) Maximum and minimum percent slopes.

(2) Depressions on the site that may collect water.

(3) Drainageways that may attribute to rainfall run-on to or runoff from this site.

(4) Portions of the site (if any) that are located within the 100-year floodplain.

c. Data and specifications for the liner proposed for seepage control.

d. Scaled plan view and cross-sectional view of the facilities showing inside and outside slopes of all embankments and details of all appurtenances.

e. Calculations justifying impoundment capacity.

f. Groundwater monitoring plans for the facilities including pertinent geohydrological data to justify upgradient and downgradient well location and depth.

3. Generic plans for on-site temporary storage.

4. A legible topographic map of proposed application areas to scale as needed to depict the following features:

a. Property boundaries.

b. Surface water courses.

c. Water supply wells and springs.

d. Roadways.

e. Rock outcrops.

f. Slopes.

g. Frequently flooded areas (SCS designation).

The map shall also show the acreage to be amended with biosolids together with the net acres for biosolids application computed.

5. County map or other map of sufficient detail to show general location of the site and proposed transport vehicle haul routes to be utilized from the treatment plant.

6. A USDA soil survey map, if available, of proposed sites for land application of biosolids.

7. Representative soil samples are to be collected to address each major soil types for each field and analyzed for the soil parameters indicated in accordance with Table 5, and test results should be submitted with the management practices plan.

8. For projects utilizing frequent application of biosolids the following additional site information will be necessary.

a. Information specified (subdivisions 2 a and 4 of this subsection).

b. Representative soil borings and test pits to a depth of five feet or to bedrock if shallower, are to be coordinated for each major soil type and the following tests performed and data collected.

(1) Soil type.

(2) Soil texture for each horizon (USDA classification).

(3) Soil color for each horizon.

(4) Depth from surface to mottling and bedrock if less than two feet.

(5) Depth from surface to subsoil restrictive layer.

(6) Indicated infiltration rate (surface soil).

(7) Indicated permeability of subsoil restrictive layer.

c. Additional soil testing in accordance with Table 5.

d. Groundwater monitoring plans for the land treatment area including pertinent geohydrologic data to justify upgradient and downgradient well location and depth.

9. Description of agricultural practices including a list of proposed crops to be grown, their respective anticipated yield, planting and harvesting schedules, proposed biosolids application rates on a field-by-field basis and how biosolids application will be integrated with these schedules.

10. Pertinent calculations justifying storage and land area requirements for biosolids application including an annual biosolids balance incorporating such factors as precipitation, evapotransporation, soil percolation rates, wastewater loading, monthly storage (input and drawdown).

9VAC25-32-680. Minimum site specific information required for a management practices plan.

A. Site management plans.

1. A comprehensive, general description of the operation shall be provided, including biosolids source(s), quantities, flow diagram illustrating treatment works biosolids flows and solids handling units, site description, methodology of biosolids handling for application periods, including storage and nonapplication period storage, and alternative management methods when storage is not provided.

2. A nutrient management plan prepared by a person who is certified as a nutrient management planner by the Department of Conservation and Recreation shall be developed for all application sites prior to biosolids application. Copies of the nutrient management plan shall be provided to the farmer operator of the site, the Department of Conservation and Recreation regional office and the chief executive officer or designee for the local government, unless they request in writing not to receive the nutrient management plan.

3. A nutrient management plan approved by the Department of Conservation and Recreation shall be required for application sites prior to board authorization under specific conditions, including but not limited to, sites operated by an owner or lessee of a confined animal feeding operation, as defined in subsection A of §62.1-44.17:1 of the Code of Virginia, or confined poultry feeding operation, as defined in subsection A of §62.1-44.17:1.1 of the Code of Virginia; sites where land application more frequently than once every three years at greater than 50% of the annual agronomic rate is proposed, and other sites based on site-specific conditions that increase the risk that land application may adversely impact state waters.

4. All nutrient management plans shall account for all sources of nutrients to be applied to the site and include at a minimum the following information: (i) a site map indicating the location of any waste storage facilities and the fields where biosolids or animal waste will be applied, (ii) site evaluation and assessment of soil types and potential productivities, (iii) nutrient management sampling including soil monitoring, (iv) biosolids or animal waste application rates based on the overall nutrient requirements of the proposed crop and soil monitoring results, and (v) biosolids and other nutrient source application schedules and land area requirements.

B. Biosolids transport.

1. Description and specifications on the bed or the tank vehicle.

2. Haul routes to be used from the biosolids generator to the storage unit and land application sites.

3. Procedures for biosolids offloading at the biosolids facilities and the land application site together with spill prevention, cleanup, (including vehicle cleaning), field reclamation and emergency spill notification and cleanup measures.

4. Voucher system used for documentation and recordkeeping.

C. Field operations.

1. Storage.

a. Routine storage - supernatant handling and disposal, biosolids handling, and loading of transport vehicles, equipment cleaning, freeboard maintenance, inspections for structural integrity.

b. Emergency storage - procedures for department/board approval and implementation.

c. Temporary or field storage - procedures to be followed including either designated site locations provided in the "Design Information" or the specific site criteria for such locations including the liner/cover requirements and the time limit assigned to such use.

d. Field reclamation of offloading (staging) areas.

2. Application methodology.

a. Description and specifications on spreader vehicles.

b. Procedures for calibrating equipment for various biosolids contents to ensure uniform distribution and appropriate loading rates on a day-to-day basis.

c. Procedures used to ensure that operations address the following constraints: application of biosolids to frozen ground, pasture/hay fields, crops for direct human consumption and saturated or ice/snow covered ground; maintenance buffer zones, slopes, prohibited access for beef and dairy animals, soil pH requirements, and proper site specific biosolids loading rates on a field-by-field basis.

TABLE A-1

SLUDGE DISPOSAL SITE DEDICATION

....., a Virginia Corporation, does dedicate that tract or parcel of real estate situated, lying and being in..... County, Virginia, more particularly described by deeded and plat of survey of record in Deed Book....., pages.....,.....,....., and....., of the Clerk's Office of the Circuit Court of..... County, Virginia, and being the identical real estate that said corporation acquired by grant with General Warranty of Title and Modern English Covenants from..... Said dedication being to establish the aforesaid area for the disposal of sewage sludge only, and that said sludge disposal site will not be used for human habitation, grazing land for domestic animals or for agricultural purposes, and will not be accessible to the public. The full interest and control of the foresaid area dedicated shall remain with the..... and this instrument is solely for the purpose of assuring the Department of Health and the Water Control Board of the Commonwealth of Virginia as to the matters hereinabove set forth. WITNESS the following signatures and seal this.... day of....., 19....

BY:..... ATTEST:.....

State of.....

County of.....

The foregoing instrument was acknowledged before me this..... day of...., 19...., by..... of..... a..... corporation, on behalf of the corporation.....

Notary Public

My Commission Expires.....

For use of Clerk of Court

This Sludge Disposal Site Dedication Document, as described above, was recorded in Deed Book..... page... on the..... day of....., 19....

SIGNED:..... of the..... Circuit Clerks Office

Article 5
Certification of Land Applicators

9VAC25-32-690. Certificate requirements for land applicators.

A. No person shall land apply biosolids pursuant to a permit issued in accordance with this regulation unless an individual holding a valid certificate of competence as specified in this regulation (certified land applicator) is onsite at all times during such land application. Certified land applicators may be considered to be onsite if they are at the site permitted for land application and, if it is necessary to leave the site, they are available within 30 minutes to return to the site to verify and ensure that land application of biosolids is in compliance with the issued permit. Certified land applicators shall possess the site-specific permit information necessary to conduct land application on the site in accordance with the issued permit and make available at the land application site proper identification, including their certificate number issued by the department. Monthly reports submitted in accordance with the requirements of 9VAC25-32-440 B shall bear the name and certificate number of the certified land applicators with an approved statement attesting that they were onsite at the times of the reported operations and that those operations were in compliance with the permit. The following parts of this regulation apply to any individual seeking a certificate of competence as required in §62.1-44.19:3.1 of the Code of Virginia.

B. Certificates of competence shall be issued by the department to certified land applicators. The department may issue such certification based on specified areas of training, experience and level of knowledge as demonstrated through successful completion of examinations as acceptable to the department.

9VAC25-32-700. Eligibility requirements.

A. Certification may be obtained by satisfying all of the following requirements:

1. Satisfactorily completing and submitting to the department an application in the form required by the department, including a statement of any felony convictions. Such application shall be submitted to the department at least 30 days before the scheduled examination date set by the department. The application shall request information relating to the person's education, work experience, knowledge of land application of biosolids and applicable regulations, and willingness to abide by the requirements of this regulation;

2. Supplying proof of meeting one of the following:

a. A copy of a transcript or similar documentation indicating completion of a high school or higher degree or equivalent education level with work experience in an agriculturally related area including farming and three months of practical experience related to land application of biosolids acceptable to the department;

b. A combination of training acceptable to the department that may include soil science or nutrient management or farming practice related educational training and a minimum of six months of practical experience related to land application of biosolids; or

c. Evidence of prior supervisory level experience with land application of biosolids of two or more years that is acceptable to the department;

3. Obtaining a passing score on each part of the land applicators certification examination administered by the department; and

4. Submitting the required certification fee by check or money order to the department.

B. Certificates shall be valid upon notification by the department and for two years following each renewal from the established renewal date and will expire on the last day of the expiration month. Certified land applicators or applicants shall notify the department of any change in mailing address within 30 days of such change in address.

C. The department, upon review, may accept or approve land applicator certification programs of other states as satisfying partial requirements for certification.

Individuals certified as land application operators in other states under certification or licensing programs acceptable to the department will be eligible for certification in Virginia by complying with all requirements of these regulations except for subdivision A 2 of this section. These individuals may also substitute, for the requirements in this regulation, 9VAC25-32-720, the attainment of a passing score on a Virginia specific examination component that shall include at a minimum the elements listed in 9VAC25-32-720 C 1 and C 6.

9VAC25-32-710. Fees.

A. Fees shall be collected for certification and recertification to defray the administrative cost for the certification program.

B. A fee may be charged to supply training materials and present education and training programs, including continuing education, which support the certification program.

C. Fees are nonrefundable and shall not be prorated.

D. The certification fee of $100 for the initial certification period shall be due with the application for certification. If an applicant is unsuccessful in achieving a passing score on the examination, the applicant is eligible to retake the examination at a scheduled time as offered by the department. Applicants may retake the examination one time with no additional charge by resubmitting the application for certification. Eligibility for any additional examinations beyond the initial retaking will require the submittal of an application and appropriate fees.

E. The certificate of competence renewal fee is $100.

F. All fees collected by the department shall be used exclusively for the operation of the Land Applicator Training and Certification Program.

9VAC25-32-720. Examination.

A. The department may offer the land applicator certification examinations on request and will schedule an examination at least once per year. The examinations shall require a demonstration of the ability to ensure that biosolids will be land applied in compliance with the requirements of this regulation. The department may limit the number of applicants taking the examination based upon available examination space.

B. Applicants for a certificate of competence shall achieve a passing score on each part of the land applicator certification examination to become eligible for certification. If applicants receive a passing score on any part of the examination they will only be retested on the remaining parts.

C. The examinations for qualified applicants for a certificate of competence in accordance with this regulation shall address the elements listed below.

1. General understanding of biosolids treatment processes and biosolids characteristics;

2. Basic principles of soils, agriculture, and silviculture;

3. Public health protection concepts;

4. Land application concepts and site management and operations;

5. Occupational safety and health protection concepts; and

6. Land application training and certification regulatory requirements, and requirements of other land application related laws, regulations, and incentive programs.

D. An individual who is unable to take an examination at the scheduled time shall notify the department at least five days prior to the date of the examination; such individual may reapply for an examination. The department may consider accepting notice of less than five days due to individual hardship situations on a case-by-case basis. Failure to notify the department may require the individual to submit a new application and payment of fees in accordance with 9VAC25-32-710.

E. The department shall establish acceptable passing scores for the examinations based on the department's determination of the level of examination performance required to show minimal acceptable competence.

F. All applicants shall be notified of results in writing within 60 days of the completion of the examinations.

G. A certificate renewal date will be established and provided to the certified land applicator.

9VAC25-32-730. Training.

A. The department shall provide training sessions on the various topics essential to ensure that land application of biosolids complies with state and federal laws and regulations at least annually.

B. The department may provide a training course on concepts supporting and relating to land application of biosolids that may include biosolids use regulation; basic soil and crop science; soil fertility; environmental management; and other relevant topics.

9VAC25-32-740. Certificate renewal.

A. The department may not renew a certificate if a proceeding to deny certification under 9VAC25-32-760 has begun, or if the department has found that the applicant violated any requirements of this regulation. A certificate is to be renewed every two years and may be renewed on or before the expiration of a certificate by complying with all of the following requirements:

1. Submittal of a renewal application on the form the department requires;

2. Payment of the renewal fee to the department; and

3. Submittal of proof of satisfactory completion of at least four hours of continuing education course work within the past two years. The completed course work must be approved by the department as providing satisfactory training. Requests for pre-approval of continuing education courses should be received at least 60 days prior to the expected course date(s) and must include a detailed syllabus indicating time to be spent on each topic area covered. Continuing education course work must be in subject matter consistent with 9VAC25-32-720.

B. Department personnel may attend continuing education sessions to verify that the requirements are met. Proof of attendance must be verified by the course provider. The department may accept continuing education units obtained in other states if such continuing education units are specifically for the purpose of recertification in the state land application operator certification program.

9VAC25-32-750. Certificate expiration.

A. Certificates issued under this regulation shall expire two years from the last day of the month in which they were issued, as indicated on the certificate, if any of the requirements of 9VAC25-32-740 are not met.

B. Following the expiration of a certificate, reinstatement may be accomplished only by reapplication and compliance with all requirements of 9VAC25-32-700 A, including the examination requirements.

C. It is the responsibility of the certified land applicators to accumulate the required continuing education requirements prior to expiration of the certificate of competence they hold. The department will attempt to notify the certified land applicators of any continuing education needs and other requirements as necessary for certificate renewal 90 days or more prior to certificate expiration.

9VAC25-32-760. Compliance with regulations and disciplinary action.

A. If the department finds that a certified land applicator or an applicant for certification violated any applicable requirements of this regulation, including the procedural violations listed in subsection B of this section, the department may deny, suspend or revoke certification, following the informal fact-finding procedures of the Administrative Process Act (§2.2-4000 et seq. of the Code of Virginia).

B. Certification procedural violations include:

1. Providing misleading, false, or fraudulent information in applying for a certificate;

2. Providing the department with any misleading, false, or fraudulent report;

3. Failing to ensure that land application of biosolids complies with permit requirements in accordance with 9VAC25-32-480 through 9VAC25-32-500 due to negligence of responsibilities by the certified land applicator;

4. Failing to promptly and accurately record observed permit noncompliance or, failure to promptly notify the permittee of observed permit noncompliance or, preventing access to inspect any land application site or, failure to provide required field records upon request, in accordance with this regulation; and

5. Conviction of a felony related in any way to the responsibilities of a certified land applicator.

FORMS

Virginia Pollution Abatement Permit Application, General Instructions, revised 2008.

Virginia Pollution Abatement Permit Application, Form A, All Applicants, revised 1/08.

Virginia Pollution Abatement Permit Application, Form B, Animal Waste, revised 10/95.

Virginia Pollution Abatement Permit Application, Form C, Industrial Waste, revised 10/95.

Virginia Pollution Abatement Permit Application, Form D, Municipal Effluent and Biosolids, revised 2/08.

Application for a Biosolids Use Permit, 2007.

Application for Land Application Supervisor Certification, (eff. 1/08).

DOCUMENTS INCORPORATED BY REFERENCE

Environmental Regulations and Technology-Control of Pathogens and Vector Attraction in Biosolids, EPA-625/R-92/013, 1992, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268.